The Commodification of Health Care in Kerala, South India: Science, Consumerism and Markets

By

Caroline Wilson

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I hereby declare this thesis has not been and will not be submitted in whole or in part to another University for the award of any other degree.

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SUMMARY

In India, alongside Information Technology, health care has become a leading sector in the country's development as a 'knowledge economy' (World Bank 2005). One of the major achievements and beacons of economic reform is the growth of some of the most technologically advanced hospitals in the world. This thesis examines the social processes shaping the expansion of the private health care system in the state of Kerala, South India, where large corporate hospitals and 'super-speciality' medicine have spread throughout urban and many rural areas. It explores the intersections between the local and the global, as the health system becomes the major driver of industrial development, unevenly linking the local health care system to the global marketplace for technologies, health care professionals and patients. It examines the three faces of the health care system in Kerala - as a knowledge industry and route to social mobility for the middle classes, in particular doctors and nurses; secondly, as a consumer economy, as people prioritise spending on health care and shop for treatment in the urban marketplace; and finally as a moral economy, as people develop high levels of dependency on doctors, hospitals and technologies in the hope of receiving good health care.

The ethnography is set in Malabar, Northern Kerala, where the expansion of private health care has been financed by remittances from migration to the Arabian Gulf countries. The thesis examines the influence of migration and economic reforms on local ecologies of health and health care; the impact of the globalisation of trade in health services in the developing world; the relationship between the private health care system and the middle classes in South Asia; and the role of markets in the delivery of health services. Based on 18 months of participant observation across the urban and rural health care market with local communities of doctors and patients, it examines how doctors and patients adjust to a changing ecology and economy of health care.

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Map 1: India[1]

The state of Kerala forms the south-westerly tip of India

[1] Source: http://www.nationsonline.org/oneworld/india_map.html

Map 2: Indian Ocean[2]

Map showing the relative position of India to the Gulf countries where 2.19 million people from Kerala are currently working (Zachariah and Rajan 2008).

[2] Source: Intermarine US. Available at http://www.intermarineusa.com/routes/images/FIG-large.png

Map 3: Map of Kerala[3]

The fieldwork was conducted in the Malabar region of Northern Kerala. This area was selected because of high levels of Gulf migration, which has financed the rapid expansion of the private health system. The main fieldwork site was an historical trading city and regional medical centre serving four neighbouring districts. Thiruvananthapuram in the South is the administrative capital of the state. Ernakulum in central Kerala is the most cosmopolitan city and major business centre in the state, with the largest number of corporate hospitals leading the expansion into medical tourism.

[3] Source: Maps of India

List of Acronyms, Abbreviations and Medical Terminology

Angiogram	An invasive diagnostic technique used to image blood vessels - most commonly performed on the coronary arteries. An angiogram is produced when a catheter (a slender tube) is inserted into the femoral artery of the leg, or the radial artery of the hand (less common). An interventional cardiologist delicately guides the catheter through the network of blood vessels until it reaches the coronary arteries. A radio-opaque dye is then released, and an image is produced as the heart pumps the blood-dye mixture through the coronary vessels. The process is imaged and recorded on a video CD. The technique can be used by a cardiologist to assess the need for invasive manipulations to the coronary arteries – either by heart by-pass surgery or angioplasty (see below). The procedure generally requires admission to hospital as a day patient. In Kerala, the final video CD (the angiogram) is given to patients.
Angioplasty	The technique of mechanically widening a narrow or obstructed blood vessel, normally as a result of atherosclerosis (the build-up of cholesterol plaques). A folded balloon is passed into the narrow passageway and then inflated to widen the blood vessel. Angioplasty can be combined with the placement of a small metal coil (a stent) in the clogged artery, in order to prop the vessel open, further decreasing the chance of narrowing. Stents are either drug-eluting or non-drug eluting.
BPL	Below Poverty Line – a measure of deprivation used to identify the poorest members of society. Criteria for inclusion are set by different states in India, and therefore the definition of poverty varies considerably across poor and more affluent regions of the country. Persons qualifying as 'BPL' receive concessions on the consumption of basic goods (e.g. food or energy), and services (e.g. reduced rates for medical treatment in private and government-run institutions).
CII	Confederation of Indian Industry. The organisation promoting industrial development in India through collaborations between private industry and government.
CT Scan	Computed Tomography Scan. In Kerala, a popular diagnostic technology which images solid structures of the body, using ionising radiation (Refer to Chapter 6 for a detailed description).

Cath Lab	or Catheterisation laboratory - the procedure room in a hospital where catheterisations are performed by an interventional cardiologist to image (angiogram) or manipulate (angioplasty) coronary artery vessels. Refer to explanation of terms above.
DM	Doctorate in Medicine. Advanced medical specialisation in Cardiology, Neurology and Nephrology etc. requiring an additional three years of study after clinical post-graduate training for an MD (see below).
DNB	Diploma of the National Board. Post-graduate training courses across different specialisms, increasingly being provided by specialist departments within large private hospitals.
Endoscopy	An invasive procedure using an optical instrument to image the interiors of the body – i.e. hollow passages such as the gastro-intestinal tract. More commonly used for the purpose of diagnosis, the instrument can be augmented to guide certain therapeutic procedures, thereby reducing the need for open surgery.
ENT	Ear, Nose and Throat
FRCP	Fellow of the Royal College of Physicians (UK)
GATS	General Agreement of Trade in Services
GDP	Gross Domestic Product
GOI	Government of India
ICSI	Intracytoplasmic sperm injection (ICSI) is an advanced technique to enhance the success of in vitro fertilisation (IVF), whereby the sperm is injected directly into the egg.
ICTs	Information and Communication Technologies
ICU	Intensive Care Unit
ILO	International Labour Organisation
IMA	Indian Medical Association. The national voluntary organisation representing the individual and collective interests of practitioners of modern medicine. It is organised at a national and state level, with over 1,700 active local branches, which meet regularly.
ISO	International Standards Organisation - an international organisation providing accreditation standards used by hospitals in India.
JCI	Joint Commission International – an international organisation accrediting hospitals in India, as officially recognised centres for the treatment of medical tourists.
KSSP	Kerala Sasthra Sahithya Parishad – the people's science movement. A network of academics, researchers, and community activists,

	promoting popular participation and research on science and social issues in Kerala.
LMP	Licensed Medical Practitioner – the medical qualification for practitioners of modern medicine, before the MBBS degree was widely established.
LMS	Licentiate in Medicine and Surgery – the basic medical qualification for practitioners of modern medicine, before the MBBS degree was widely established.
MBBS	Batchelor of Medicine, Batchelor of Surgery - the basic medical degree awarded to contemporary doctors in India, first introduced by the British. Doctors are required to study for 5 and a-half years, with one year of rotations in different medical specialisms.
MD	Doctor of Medicine - post-graduate degree in clinical medicine, which must be completed before (possible) further specialisation in cardiology, neurology etc. (see DM above).
MRI	Magnetic Resonance Imaging is a medical diagnostic technique used by radiologists to visualise detailed internal structures and limited functions of the body. MRI provides much greater contrast between different soft tissues of the body compared to CT, especially useful in neurological, musculoskeletal, cardiovascular, and oncological imaging. The machine creates a powerful magnetic field to magnetise (usually) the hydrogen atoms in water in the body. By varying the radio frequency, magnetisation causes the hydrogen nuclei to produce rotating magnetic fields detectable by the scanner. This signal can be manipulated by additional magnetic fields to build up enough information to construct an image of the internal structures of the body (Squire 1997).
MRCP	Member of the Royal College of Physicians (UK)
NABH	National Accreditation Board for Hospitals and Health Care Providers. Indian standards association for private hospitals and scanning centres
NHS	National Health Service (UK)
NRI	Non Resident Indian
NSS	National Sample Survery – regular household survey in India measuring social and economic development, to assist government planning (established 1950)
OECD	Organisation for Economic Co-operation and Development
SDP	State Domestic Product

SIO	Student Islamic Organisation - India students' wing of Jamaat-e-Islami promoting moral values in educational institutions
SNDP	Sri Narayana Dharma Pariplam Yogam. Society for the preservation of the moral law of Sri Narayana Guru
WHO	World Health Organisation

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The thesis is a first attempt to analyse a complex health care system. While I have benefited considerably from comments and feedback, I take full responsibility for the limitations of the work presented.

Introduction

On 11th March 2006, a convoy of coaches set off in the early morning from Calicut Medical College filled with over one hundred students to attend a conference on medical ethics hosted by the Student Islamic Organisation of India (SIO). A crowd of over 5,000 students from all faiths and regions of Kerala have assembled at the large rural campus. During the two-day programme delegates are provided with free food and accommodation organised by a host of volunteers from the local community. Health care professionals from across the country have been invited to speak, united by a common concern over the state of medical ethics in India. The diversity of students and speakers reflects the wide range of professionals confronting and concerned by ethics in health care, from laboratory technicians, to physiotherapists, nurses, and doctors from modern medicine and āyurveda. The air of the conference is upbeat as students sit listening attentively to speakers under the shade of a large marquee, providing some relief from the hot summer sun. Dr George, the editor of the Indian Journal of Medical Ethics is the first to address the gathered crowd. He begins,

"I am really thrilled to see so many young people present here for this conference. From the time I was a medical student in the late 1970s and early 1980s we've been trying hard to bring in this concept of medical ethics, and so far I never had a chance to see so many people all gathered together for this one idea of medical ethics. I hope that in the years to come all you young people will be the instruments of a new situation, when ethical practice is common in India – it certainly isn't today."

He continues,

"Fundamentally, we should ask what is special about the relationship between a patient and a doctor – why should there be so much fuss about medical ethics? Why is an equal fuss not made about business ethics, or ethics amongst lawyers or teachers? What is so special about medical ethics that it is all the time in the news, all the time a focus of controversy, all the time a focus of discussion? This is because the relationship between a patient and a doctor is something very special and has been so right from the dawn of medicine. When a patient goes to the doctor, he entrusts in the doctor, almost complete trust of his body. This is the most intimate relationship that a person can have outside his own family. It is the most intimate relationship that one human being has with another human being who is not a member of his family. And because people trust the doctor so

much, they expect a very high standard of care and caring from medical professionals – the question is, are the medical professionals worthy of this level of trust and care? I am not here to answer this question - it is up to the public and each one of you who uses the services of the doctor to reflect upon it. However, I have a feeling that every one of us doesn't trust the doctor completely. Otherwise we would not need to have a seminar, it would not be a subject of controversy in medical journals and the media. So the question arises, what is it that makes the patient feel that all is not well in the patient-doctor relationship?"

As the heart of the moral economy of medicine and interface between local lifeworlds and the global marketplace, the doctor-patient or patient-doctor relationship has become an important site for local critique of transformations occurring in modern medicine. As medical treatment involves the sharing and submission of the body to the care of the doctor, patients idealise the relationship in kinship terms, as a sphere of limitless demands and mutual trust (Marriott 1955:249). While students and activists gather to discuss the ethical consequences of a health care system shaped by the wider values of economy and society, the medical profession and the health care industry have become the most important sites through which transformations in the consumer and productive economy have taken hold.

In the last eight years, Kerala has become home to some of the most high tech state of the art private hospitals, offering world-class facilities and cutting edge technical care, at some of the lowest rates of any health care system in the world. The growth of corporate hospitals is an important paradox of economic liberalisation in India - as a sector competing on an equal footing in quality and expertise with other parts of the world, while the most basic health care needs of many sections of Indian society remain grossly underserved (Khare 1996, Qadeer et al. 2001, Mullan 2006, Jeffery and Jeffery 2008). As the aspirations, expectations and expense of modern health care increase, criticisms of the medical profession and private hospitals abound. However as Nichter and Nordstrom (1989:368) note, negative discourses between doctors and patients often fail to adequately account for the larger political-economic and ecological factors influencing health status and the structure of health care provision.

In Kerala, economic reforms and remittances from Gulf migration have stimulated a radical transformation the health care landscape, as diagnostic laboratories,

scanning centres, specialist clinics, small and large hospitals have mushroomed across urban and more affluent rural areas. Health consumption patterns have changed, as the family physician dispensing medicines from a small clinic is superceded by new 'super-speciality' hospitals, equipped with the latest technologies and highly qualified doctors. Minimalist private nursing homes have been marginalised in the health care market, as new super-speciality hospitals are fashioned as aspirational spaces for the expanding middle classes to consume a wide variety of health services. Medicine has become truly modern, as impressive technologies, high tech screens and computers are introduced to see and screen the body. While government doctors and independent practitioners working in poorer areas, continue to rapidly check and dispense prescriptions to long queues of patients (Das and Das 2006), in private hospitals predominantly middle class patients can have a consultation with a super-specialist doctor in an air-conditioned room, and their health problems investigated with the latest technologies.

This thesis examines the causes and consequences of the paradigm shift in medical practice, as simple checks and symptomatic treatment are superceded by consultations with super-specialist doctors and the use of high tech diagnostics. It explores how the local health care system has become integrated into the global economy, through the movement of technologies, knowledge, money, businessmen, doctors, nurses, patients and ideas. It examines the social processes, ideologies and values transforming the supply and delivery of health services, as interests in medicine expand far beyond the provision of a vital service to the local population. The thesis explores how health sector development is being driven by ideas of global standards and technologies, the local context of a competitive marketplace, and the aspirations of the middle classes, as medical professionals and consumers of health care. It analyses the changing values and practices of the medical profession, as the growth of the middle classes, investments in new technologies and skills, and ideas of risk redefine a professional duty of care. It explores patient perceptions of health care 'needs' - as heightened health anxieties, chronic morbidity, birth and death are medicalised in new high tech hospitals. The thesis examines the reasons why the doctor-patient relationship has become a focus for local critique of transformations in medicine, and the tensions emerging as specialist doctors and technologies increase expectations of better health and health care, while the prevalence of chronic illness and the cost of services have increased exponentially. It investigates how doctors and patients adjust to a changing

economy and ecology of health care, as development is welcomed as a sign that life is improving, and critiqued as a new form of exploitation.

Purpose, Contribution, and Argument of the Thesis

The privatisation of health services and the market mechanism have become the dominant methods for the expansion of health care across the developed and developing world (Moran 1998, Baru, 1998, Pollock 2004, Mackintosh and Koivusalo 2005). Since India intensified its programmes of economic reforms in 1991, the health sector has grown at an annual compound rate of 16 per cent per annum, increasing health expenditure to 6 per cent of GDP (Bagchi 2008). In the United States, medical sociologists and historians have analysed transformations to American medicine during the 20th century, resulting from technological innovations, and the wider configurations of ideas shaping the organisation of industrial society (Navarro 1976, Starr 1982, Rosner 1982, Howell 1995). Accounts have examined the relationship between industrial elites and the medical profession (Navarro 1976, 1980); the growing cultural authority, economic power and political influence of the medical profession (Starr 1982); the efficiency movement in medicine, as accounting and medical technologies transformed the delivery of health care and the management of hospitals (Howell 1995); and the dimunition of charity in medicine resulting from changes to the ownership of hospitals, the use of technologies, and the growth of the middle classes (Rosner 1982).

Thus far such accounts linking health sector transformation to broader patterns of social, political, economic and technological transformation have been limited in developing countries. This in part reflects the enduring tendency to treat medicine as separate from the wider value system of economy and society; the speed of recent transformations, as countries open up their economies to foreign trade and investment; and the inherent difficulties and challenges of taking on such a task. There is now a considerable body of literature examining the impact of economic reforms on health policy and health service provision in India. One of the most important issues of concern has been the impact of marketisation on public health and the poor (Rao et al. 1999, Qadeer 2000, Qadeer et al. 2001, Peters et al. 2002, Jeffery and Jeffery 2008). This is particularly important as the withdrawal of the state and greater dependence on the private sector has made health expenditure one of the most common reasons for descents into poverty (Krishna 2004, 2007, Wilson 2004, Jeffery and Jeffery 2008, Dilip 2008). Using household data, these studies have examined the impacts of health care

expenditure and private medicine on the poor. However, less is known about the institutional, social, technological and medical reasons for the rising cost of health care. Other research has analysed the growth, transformation and problems associated with private medicine in India (Baru 1998, 1999, 2001, 2003, 2005, Phadke 1994, Yesudian 1994, Bhat 1993, 1996, 1999, Yamey 2001, Qadeer et al. 2001, Lefebrve forthcoming, Peters and Muraleedharan 2008). However studies have minimally explored the relationship between private medicine and the middle classes, as the purported beneficiaries of private health care (Qadeer 2000); and little is understood about the impact of transformations on medical practice, consumer choice and the workings of the health care market.

This thesis is the first study to explore the industrialisation of medicine in India, which analyses the growth of medicine alongside the development of other knowledge industries; the social processes shaping the diffusion of medical technologies across the organised and disorganised health care market; the transformation of the medical profession from cultural elites to petty and large-scale entrepreneurs (Baru 1998); the role of the middle classes as stakeholders in the medical profession and consumers of health care; the effects of transformation on the delivery of health care, medical practice and the movement of patients around the health system; and the implications of marketisation on the ethos of charity, social service and the definition of a professional duty of care. The research is also the first to use multi-sited ethnographic methods across different hospitals, in order to investigate differences in medical practice and the role of markets in health care.

The thesis examines the multiple layers of stakeholders and the intersecting interests, shaping the supply and demand for high tech health care. It explores how transformations in medicine encapsulate the broader transfiguration of ideas and practices shaping the Indian economy - as manufacturing cedes to the service sector, and information plays a greater role in shaping everyday work and consumption habits, ambitions, values and opinions (Castells 2000). As Starr (1982:8) observes,

> "The organization of medical care cannot be understood with reference solely to medicine, the relationships between doctors and patients, or even all the various forces internal to the health care sector. The development of medical care, like other institutions, takes place within larger fields of power and social structure."

As the health care industry becomes a leading sector driving changes to economy and society, the thesis traces the paradigm shift in health policy as growth oriented development and technology dominate health service provision. It develops the concept of marketisation to refer to the broader configurations of ideas and aspirations, people and technologies, marrying business, science and social mobility, which have been instrumental in shaping the provision and consumption of health care. As the health sector becomes one of the most profitable areas for investment in the burgeoning consumer economy, the commodification of health care refers to the ways in which the provision of a vital service based on 'need' is being fashioned and consumed as a desirable commodity; and a knowledge industry - as leading industrialists expand capacity and diversify into medical tourism; as information and communication technologies become central to the delivery of health care; as medicine becomes an important route to social mobility for the middle classes; and as hospitals and doctors upgrade skills and services in order to compete for patients.

The thesis analyses how the provision and consumption of health services is reconfiguring the local and global imagination of India, as medical tourism, international standards and technologies transform the vision for health service delivery. It explores the intensifying linkages between the local health system and the global economy, as international trade in health services shapes the architecture of health service provision; and the way in which transformations have been shaped by regional patterns of development in Kerala, as a result of migration to the Arab Gulf countries. It analyses the impact of changing patterns of social stratification on the relative status and distinction of the medical profession; and the shift from an elite-mass divide to a strengthening middle class in transforming the ideology of health service provision and the social backgrounds of doctors. It examines the local logics of competition, as hospitals use technologies, ideas of luxury and standards to compete for middle class patients, and the impact of transformations on access to affordable health care.

The Context of Health Sector Transformation in Kerala

In India, the development of corporate health care has generally been concentrated in India's major metropolitan cities. In Kerala, 250-plus bedded hospitals offering advanced services such as coronary artery by-pass surgeries, renal dialysis, interventional foetal medicine and ICSI[4] treatment have spread across urban and affluent rural areas. In a region with low levels of industrial

[4] Intracytoplasmic Sperm Injection (for infertility problems).

development, the health system has become the major driver of economic growth, an important route to social mobility in the local and global economy, and the most expansive consumer industry. The case study from Kerala provides an example of a particularly rapid transformation, as the supply and demand for health service has been largely financed by remittances from Gulf migration. The region is also known for its particularly 'health conscious' population, and is widely recognised as one of the best markets for medical technologies in India (Saradamma et al. 2000). To understand the broader social contexts shaping the marketisation of health services, the thesis analyses the three economies of medicine in Kerala:

a) As a knowledge industry, it explores the importance of private health care to development, as the only significant form of industrialisation in the state – enhancing opportunities for doctors, nurses, and other health care staff to work domestically and overseas. It explores regional patterns of development as Gulf migration, the privatisation of education and health care dominate Kerala's development trajectory. It investigates the experiences of doctors in the new economy, the development of hierarchies within the profession, and the relationship between the health system and the middle classes.
b) As a consumer economy, the market for health services is examined as a way of organising access to expert knowledge or expertise embodied in persons and technologies (Bloom and Standing 2008). It explores the social processes shaping the architecture of the health care system as hospitals upgrade interiors, employ new specialist doctors, and diagnostic technologies become an important focus for health sector development. It analyses the ways in which health care is being fashioned as a commodity and the gap between processes of marketisation, commodification and health care needs.
c) As a moral economy, it examines the health care system, as a way of organising access to a necessary good and an intimate sphere of exchange between doctors and patients, ideally based upon high levels of inter-personal trust. It explores the reasons for high levels of dependency on the health care system and the ways in which marketisation is transforming the doctor-patient relationship. As patients begin to ask questions of their doctors, receive higher standards of care and spend more time in consultation rooms, it examines the benefits, challenges and limits to marketisation and commodification, and the enduring value of the doctor, as the moral heart of the health care economy.

The thesis examines the shift in health care ideology from the perspective of the actors and institutions whose ideas and practices are leading development; and how these ideologies are transforming the lives and experiences of different hospitals, doctors and patients implicated in reforms. Health commodification refers to four ideological standpoints governing the provision of health services in the marketplace:

a) Health care is a commodity, which can and should be bought and sold in the marketplace like any other good or service.
b) Health care can be fashioned as a desirable commodity.
c) Technology is an essential value representing higher standards in health service provision.
d) Doctors are service providers and patients are consumers, who no longer share a common interest in healing, but should act with regard to their own self-interest.

The ethnographic data examines the extent to which processes of health commodification are shaping the values, attitudes and behaviour of doctors and patients, and the ways in which new values are accepted, critiqued and resisted. Health commodification is analysed as the emerging gap between health care as a 'social good', which includes protecting and improving health and the provision of professional, ethical, accountable and accessible health care (Mackintosh and Koivusalo 2005:3); and the marketisation of health services as the dynamic processes shaping the provision and consumption of health care; the movement of doctors and patients around the health system; and the real and imagined emergence of a more antagonistic relationship between doctors, patients and hospitals. The following section outlines the intersecting arguments developed throughout the thesis, relating to the growth of the knowledge economy in medicine. This is in turn used to understand the trajectories shaping the social, political and economic transformation of medicine in Kerala, and the role of markets in health care.

The Argument

The overarching argument developed in the thesis is that medical knowledge is a form of social power, which sustains and enhances the interests of powerful social groups and individuals, who gain access to and control medical knowledge. Secondly, it is argued by examining the development of the knowledge economy in medicine as an historical process, it is possible to trace the ways in which medical power/knowledge has been diffused and withheld, and how at different historical junctures, the diffusion and withholding of medical knowledge has increased the social and economic power of elites controlling medical knowledge. What emerges through analysis of different historical epochs is the enduring social power of the medical profession - as modernisers and reformers, who have shaped local engagements with modernity. It is suggested that doctors are cultural and economic elites, who have promoted modern values of education and health care, thereby enhancing the social esteem and distinction of modern doctors. However, in matters of health and healing, it is proposed that doctors have acted as guardians of esoteric knowledge, thereby cultivating dependence on doctors, as the behaviour of educated moderns. The thesis demonstrates how this has perpetuated demand for the social, symbolic, economic and cultural capital associated with becoming a medical doctor, and dependence on doctors as experts.

By analysing the changing status and role of the medical profession, the withholding and diffusion of medical knowledge, the thesis traces the social processes shaping the development of the knowledge economy in medicine and the commodification of health care. Following the intensification of economic reforms in 1991, it is suggested a distinctive shift has occurred from the idea of medicine as a social good with positive benefits for population health; to an ideology of medicine as a source of growth, profit, and social mobility, achieved through investment in medical-related human and technological capital. Following years of state-socialism, the thesis demonstrates how market reforms have successively lifted previous restrictions on access to medical knowledge. It shows how this is occurring as the privatisation of medical education increases opportunities for social mobility through the acquisition of basic and higher medical qualifications; how this has in turn enabled wealthy elites to diversify into the medical profession and the health care industry; and how the reduction of import duties on technologies has increased the availability of knowledge generating machines. The thesis illustrates how this has increased investment

and the potential rewards from the acquisition of medical related capital, while also enhancing inequalities within the medical profession.

As Callon et al. (2002:194) note, "markets evolve and like species, become differentiated and diversified. But this evolution is grounded in no pre-established logic." They argue evolution is not simply the consequence of a natural tendency to adapt. Rather economic markets are caught in a reflexive activity that actors concerned with economic activity explicitly question their organisation and based on an analysis of their functioning try to conceive and establish new rules of the game. By examining the ways in which actors and institutions evolve and adapt practices over time, the thesis shows how markets produce dominant values and similar practices in order to perform quality and standards in health care. It illustrates how markets reproduce inequalities, as leading institutions and doctors create new opportunities and establish new rules of the game, while others respond to threats in an attempt to maintain market share. By analysing the social logics of competition, the thesis demonstrates how the market is set in a perpetual state of growth and activity, as investment and 'upgrading' become necessary activities to maintain or enhance market share.

As suggested above, medical power/knowledge has been based on the creation and maintenance of information asymmetries between lay ignorance and medical expertise, thereby increasing dependency on the knowledge of doctors. In the context of enduring information asymmetries, the thesis demonstrates the role of commodities, performance and appearances to communicate expert authority – through dress, deportment, language, qualifications; and higher standards in health care – through stylised interiors, and the use of objects. In particular, the thesis illustrates the power of medical technologies in mystifying medicine as a form of social, symbolic and sacred power. It demonstrates the value of technologies as abstract symbols enhancing perceptions of quality in health care; in increasing speed, efficiency and profit from the delivery of health services; and in sustaining the demand for health services through the creation of hierarchies and differences between doctors and hospitals and the production of information.

In contrast to previous literature in India, which has portrayed medicalisation as driven by high levels of consumer demand for pharmaceuticals (Djurfeldt and Lindberg 1975, Melrose 1982, Greenhalgh 1987, Kamat 1995, Evans and Lambert 1997, Kamat and Nichter 1998, Das and Das 2006), this thesis argues contemporary processes of medicalisation are being driven by the marketised

context of health service provision. It analyses marketisation as a distinct historical juncture in which,

a) Medical education has been opened up to more sections of society.
b) The supply and usage of medical technologies is unrestricted.
c) Medical knowledge has been freed from overt control by the medical profession – through the usage and demand for information and communication technologies and the media; and lay questioning of medical authority.

The thesis shows how this has created new forms of medicalisation, sustaining the demand and supply of health services, as information and technologies become central to the functioning of the health care market.

To summarise the different layers of the argument:

a) Medicine is a form of social control
b) By tracing the development of the knowledge economy as an historical process, it is possible to understand how medical knowledge has been withheld and diffused, and how this has shaped the social, political and economic power of elites.
c) Marketisation is a distinct historical juncture, leading to the diffusion of medical knowledge/power across the health care market, leading to new forms of medicalisation driven by the the market context of health service provision.

The Organisation of Chapters

Each sustantive chapter analyses a different layer of the knowledge economy in medicine - from the global and national context of health service development, to the ways in which the transition to high tech health care is affecting patient responses to health problems and the doctor-patient relationship.

Chapter 1 examines changes to the geo-political economy as policies of neo-Keynesian welfarism and protectionism cede to the marketisation of health services and international trade. It analyses how the international and national context of economic and health sector reforms have shaped the globalisation of trade in health services and the wider development of the knowledge economy in India. Chapter 2 outlines the methods used to understand the development of the knowledge economy, and to capture differences in medical practice, values

and attitudes of doctors, patients and other stakeholders in the health care economy. Chapter 3 examines processes of social intermediation, leading to greater acceptance of modern medicine within the medically plural health system in India and Kerala, and the characteristics of medical dominance. Chapter 4 explores transitions in the Kerala model, from a region noted for its achievements of 'good health at low cost' to the importance of the health care economy to Kerala's development trajectory. Chapter 5 examines processes of marketisation by tracing the growth of different private hospitals. Chapter 6 examines evolutions the development of the market for medical technologies and the demand for visual knowledge, as CT scanners become symbolic values denoting higher standards in health care. Chapter 7 explores the informationalisation of the health care economy, to understand the ways in which marketisation is transforming the relationship between doctors and patients. Chapter 8 analyses the trajectories shaping the social, political and economic transformation of medicine in Kerala, the commodity status of health care and the intersections between marketisation and medicalisation.

The following section sets out the key theoretical debates informing the main body of the thesis. The literature review draws on recent debates on the relationship between economics and the economy; the role of the 'new' middle classes as intellectuals and technocratic elites; the privatisation and marketisation of health services; comparative debates on medicalisation and the industrialisation of medicine; the relationship between professional and business ethics; and the reconstitution of patients as consumers. It thus explores the practices, ideologies, values, social processes and possible implications of the marketisation of health services. The first section explores the context of health sector reform in India.

The Marketisation of Health Services and the Commodification of Health Care

Like many other developing countries, India followed the path of structural adjustment in the early 1990s. The process led to the liberalisation of the Indian economy as restrictions on foreign trade and investment were lifted, and simultaneously efforts were introduced to reduce budgetary deficits in the state sector (Purhoit 2001). As a condition of structural adjustment, government expenditure on social sectors had to be curtailed (Patnaik 1999). In the state sector, any further expansion of curative services became dependent on private

capital and cost recovery mechanisms in order to promote efficiency (Qadeer and Reddy 2006, Raman and Björkman 2008). As investment in technologies dominates 'health' thinking, a paradigm shift in health policy has occurred - from a more inclusive ideology of health care as a right to be claimed by all citizens from the state; to health care as a commodity, as access to health services is increasingly predicated upon the ability of users to pay for services.

Although 'health' cannot be bought or sold, market reforms have stimulated the diversification and specialisation of health related products and services. Across the public and private sectors, health is being commoditised because when issues of health arise, policy is being dominated by the expansion and consumption of health related services (Evans and Stoddart 1990:1347). As service provision becomes ever more dependent on capital inputs, critics argue technological determinism has eclipsed broader policies to improve public health, and to respond to unmet health care needs of the poor majority (Rao 1999, Qadeer 2000, Jeffery and Jeffery 2008). In the private sector, investment in health services has occurred as the government lifted restrictions on overseas investment in hospitals (Yamey 2001, Lefebrve forthcoming); reduced import duties on medical technologies (Baru 1998); expanded access to private medical education; and deregulated financial markets, thereby increasing access to cheaper credit. Marketisation reflects the wider availability of capital, technologies, training, and the ambitions sparked by economic reforms, as the local economy is further integrated into the global world system. The first section explores the relationship between economics and the restructuring of the global economy.

Markets, Economics and Global Connections

To understand the ideologies and practices informing the restructuring of the global economy, economic sociologists have examined the relationship between economics and economies (Carrier et al. 1997a and 1997b, Callon et al. 1998, Miller 2002, Barry and Slater 2002, Mitchell 2002, Thrift 2005). Neo-classical economists studied the economy as a science in which the basic unit was the free individual, as the physicist working in the laboratory studied the basic unit of the material world as the atom (Carrier 1997a:3). Like the physicist, economists made assumptions about the individual as a predictable, rational calculating agent. Previously concerns were raised about the failure of economists to capture the essence of real world economic activity (Keynes 1936). More recently, attention has focused on the implications of the abstractions inherent in the neo-

classical model of the economy, in shaping the ideologies, practices and organisation of the global economy.

For neo-classical economists the market is an abstract medium of exchange where information and choice determine the price and output decision-making of millions of independent producers and consumers, each too small to influence market evaluations (Carrier et al. 1997a, Demsetz 2000). Although 'competition' has been central to the model of perfect competition, Demsetz (2000) argues what is modelled is not competition but extreme decentralisation, based on the assumption that maximising individuals behave with complete disregard for the decisions or existence of others (Levačić 1991, Demsetz 2000:103).

> "The same decisions follow from the same prices (and technology) whether or not anyone else is "out there" reacting to these parameters. If such impersonal maximising behaviour is competition, it is a very restricted variety… doing better than others is not involved. No small amount of mischief has resulted from identifying this model with competition. Its appropriate name is perfect decentralisation."

Over two hundred years after neo-classical economists first outlined the scientific principles of perfect competition, the global economy appears to more closely conform to the ideals of the model, as economies are opened up to the free floating forces of demand, supply and international competition. Integration is occurring as restrictions are removed on the movement of capital, people, commodities, ideologies and images (Inda and Rosaldo 2001, Appadurai 1990, Appadurai and Breckenridge 1995); as transport linkages, information and communication technologies create thin layers of inter-connection across the globe, involving compressions of time and space (Webster 2002, Urry 2007, Castells 2001, Harvey 1990); and as the organisation of large companies becomes sensitive to transnational differentials in salaries and output costs to increase efficiency (Harvey 1990, Martin 1994, Carrier 1997b, Castells 2000, Webster 2002,). The ideas of neo-classical economists and technological innovations have enabled companies and individuals to continually adapt to changing market circumstances and opportunities. However, the impact of globalisation in local markets has been uneven, as educated members of the middle class are integrated into the international service economy and consumption practices evermore linked to the global market for goods and services.

During the 1960s the influential management theorist, Peter Drucker coined the term 'knowledge workers', as the group 'destined to constitute the highly educated, intellectual, technocratic and managerial elite of every country'. Through the development of communication technologies, he envisaged a world in which industries would be free to locate their knowledge workers, anywhere on the globe. Knowledge workers would be swiftly globalised, welcomed in most countries and their incomes determined in world markets (cited in Khadria 2002:46). In healthcare, the circulation of doctors has been argued to increase networks of expertise, leading to similar capital formations and service provision across the globe (Turner 1990, Kapur 2001, Khadria 2002). As a result of the increased circuits of business expertise, flows of finance capital, and the trans-national movement of doctors, nurses and patients, the Indian corporate hospital is emerging, in representation at least, as a homogenous institution, which speaks of universal standards in health care comparable, in all but price to other territories of the western industrialised world. Chapter 1 analyses the ideologies and practices shaping the development of the knowledge economy in India, as doctors and engineers become the chief participants from India in the knowledge economy, and medical tourism consolidates the idea of international standards in health care. The following section analyses transformations informed by literature on the 'new' middle classes in India.

The 'New Middle Class', Doctors and Hegemony

As Bourdieu (1986:242) observes, economic theory has foisted upon the world a definition of the economy of practices, by reducing the universe of exchanges to mercantile exchange, which is objectively and subjectively oriented towards the maximisation of profit and self-interest. In the process, the focus on mercantile capitalism as interested, has defined other forms of exchange relationally as non-economic, and therefore *disinterested* (origin emphasis). As Elay et al. (1998:40) note, in the neo-classical economic view, people are stripped of their biographies and prior experiences, merely theorised as self-interested automatons, carrying out economic activity for maximal returns and minimum effort. Neo-classical economics therefore disavows the ways in which individual choices are historically shaped, socially embedded and culturally reproduced. This is important to understand the uneven processes shaping local engagements with modernity in post-colonial societies, as external domination has magnified the power and influence of a restricted number of elites.

Since the middle of the nineteenth century, modernity has been driven by advances in science and technology, and the emergence of a regulatory state apparatus. The rise of bureaucratic and technocratic controls led to the growth of an intermediate stratum of white-collar occupations and professions, characterized by increasing degrees of education (Sridharan 2004: 407). In India, this 'new middle class' was distinguished from other groups, through their associations with the English language, and the educational and administrative machinery (Mazzarella 2005).[5] As the product of colonial rule, this group remained relatively small yet more in influential in the public sphere and politics compared to its western equivalents (Ahmad 1982, Deshpande 2003, Béteille 2003, Fernandes 2006, Fuller and Narasimhan 2007). Following more than two hundred years of external domination of trade and state control of the economy, the industrial bourgeoisie has been a relatively weak class in India (Misra 1961, Lieten 1977, Deshpande 2003). Therefore in contrast to the middle class in industrialised societies, which formed a significant intermediate stratum, India's new middle class were elites influential in shaping the cultural values of society from the upper echelons of the class pyramid (Srivastava 1998, Prakash 1999, Ahmed and Redfield 2001, Mazzarella 2005, Deshpande 2003, Fernandes 2006).

The formation of the Indian middle class can be traced back to British colonial educational policy, which in the famous words of Thomas Macaulay would lead to the creation of a "class, Indian in blood and colour, but English in tastes, in opinions in morals and intellect" (cited from Fernandes 2006:3). The colonial administration's cultivation of a numerically small class of urban professionals, white-collar workers in government, industry, and the intelligentsia were politically more influential due to the significant social and cultural distinctions between elites and the mass of the Indian population. This distinction invoked a superior moral force to the cultural capital acquired by elites, through privileged access to English medium education, technical skills and employment opportunities in the bureaucracy (Misra 1961, Chatterjee 1986, Srivastava 1998, Deshpande 2003, Fernandes 2006).

In the immediate post-colonial period, the new middle classes continued to dominate the state apparatus and ideology, enjoying greater political legitimacy as a result of their leading role in the struggle for independence and subsequent

[5] There is considerable conceptual confusion between authors who use the term 'old' or 'traditional' to describe the colonial or Nehruvian middle class (Mazzarella 2005, Varma 1998). Here the term 'new middle class' is used to refer to technocratic elites in the colonial and post-colonial periods.

self-reproduction as the dominant class (Misra 1961, Chatterjee 1986, Deshpande 2003, Fernandes 2006). Drawing on Gramscian insights to understand the importance of the middle class in creating and maintaining dominant ideology and regulating social structure, the concept of hegemony is useful to understand the production, transmission and legitimisation of ideologies, through peripheral social practices necessary to sustain domination (Deshpande 2003, Fernandes 2006, Pinches 1999). By hegemony, Gramsci meant the permeation throughout society of an entire system of values, attitudes, beliefs and morality that has the effect of supporting the status quo in power relations. Hegemony in this sense is defined as an 'organising principle' diffused through the process of socialisation in every area of social life. The extent to which this prevailing consciousness is internalised by the population becomes 'common sense' so that the philosophy, culture and morality of the ruling elite come to appear as the natural order of things (Boggs 1976:39). Here the 'mass' segment of the middle class performs a vital role as 'committed and sincere believers of dominant ideologies' thus investing them with social legitimacy and moral force (Deshpande 2003:142).

The concept of hegemony is useful to understand the role of the medical profession as a numerically small elite, who have reinforced their superiority, in their function as public intellectuals, cultural elites, modernisers, social reformer, and moral leaders in their work beyond healing. The medical profession have maintained hegemony as role models for the aspirant middle class, promoting the values of education, English and science, as the moral basis of social stratification. Amongst wider society, the privileged status of the doctor reflects 'common sense' dispositions, that the medical profession acts as moral guardians of what is good and proper in social life (Zola 1972). In the medically plural health care environment, the concept of hegemony is useful to understand the privileged position of the medical profession as guardians of esoteric healing knowledge (Quah 1989). Given India's plural medical tradition and social hierarchies between doctors and patients, modern medical knowledge has been the preserve of the medical profession. This has created a hierarchical relationship of dependency and submission, authority and deference, in which doctors are expected to understand the problem, and patients are expected to willingly submit their bodies to the expert care of doctors (Carstairs 1955, Marriott 1955, Von Schmädel and Hochkirchen 2001, Eraly 2006). The medical profession have thus maintained hegemony, creating a dichotomy between the expert knowledge of the modern doctor and the pluralistic health beliefs of the lay population. Chapter 7 examines the reasons why, and the ways in which medical

authority is gradually being challenged, and the implication of transformations to the doctor-patient relationship and the functioning of the health care.

Doctors and the Accumulation of Capital

In the transition from socialism to fully-fledged capitalism, it is important to understand the changing status and function of the medical profession – as respected members of the techno-cratic intellegensia, who have been able to utilise their social position to become vanguards of capitalist development, as proprietors of material, intellectual and cultural capital (Eyal et al. 2000:4). This has transformed the possibilities for the accumulation and conversion of capital. Bourdieu (1986:243-255) analyses the economic, social, cultural and symbolic dimensions of capital. Economic capital is the simplest form of capital, immediately and directly convertible into money, which may be institutionalised in the form of property rights. Cultural capital is both an embodied state in the form of long-lasting dispositions of the mind and body, innate learning through being, transmitted in hereditary form (e.g. the seemingly natural reproduction of the children of doctor's as doctors); secondly cultural capital is objectified through the possession of cultural goods (e.g. for the doctor, diagnostic machines, air-conditioned rooms and laptops, producing value in the service of the doctor); cultural capital also exists in its institutionalised state in an objectified form, as educational qualifications, confer entirely original properties on the cultural capital, which it is presumed to guarantee (ibid: 243) (e.g. the entry into the medical profession, the acquisition of post-graduate qualifications, bringing status, authority and respect). Social capital consists of actual or potential resources that inhere within social networks or groups for personal benefit (e.g. the benefit of having a doctor as a friend, or the benefits accruing to the doctor by virtue of being a doctor, or as a member of the profession).

To understand processes of health commodification it is necessary to trace the flows of different forms of capital, as the marketised and globalised context of health care provision transforms the flows and conversions of different forms of capital; as economic capital is converted into the cultural capital of having a doctor in the family; as the cultural capital of being a doctor creates opportunities to accumulate economic capital; as the economic capital necessary to become a successful doctor increases; as migration reduces the economic distinction of the medical profession relative to other members of society; as abstract symbols of higher qualifications override social connections in health care seeking behaviour. Through analysis it is possible to trace the different ways in which the

marketisation of health services has increased inequalities between members of the medical profession; the ways in which different doctors are able to compete by using different forms of capital; and how the possession and dispossion of capital shapes the supply and usage of medical technologies. The next section examines the differences between marketisation and privatisation to discern recent transformations to the provision of health services.

Privatisation, Marketisation and the Commodification of Health Care

The delivery of modern health care is necessarily dependent on the availability of different commodities – pharmaceuticals, surgical equipment, blood pressure machines etc. In state-run institutions in India, a considerable problem has been the lack of basic supplies, staff and equipment (Jeffery 1988, Kamat 1995). Given the supply-side constraints to service provision, particularly in rural primary health centres, the work of Kamat (1995) illustrates the importance of private practice to the more effective working and popularity of a government facility. In this case study, the local doctor overcomes supply shortages by purchasing medicines and practicing in the evenings. By doing so, the doctor is able to provide more services to needy patients, to ration government medicines in short supply, and to provide other medicines to private patients. Even though the doctor is criticised by local patients for being 'money-minded', the example illustrates how the private interests of the doctor work in the common interests of the community, through improvements to the supply of medicines and services, where none would otherwise be provided. The case study illustrates an important characteristic cited by proponents of markets, as financial incentives provide an impetus to act, to mobilise resources in order to meet consumer demands for medicines within the context of a failing state system (although it is not clear whether the same could have been achieved by placing demands on the state to improve supplies). Private capital is mobilised in order to respond to the needs of the local community for basic supplies of medicines.

Shifting Ideologies of Health Care: From Economism to the Economy

A common criticism of markets in health care is that they create of a two-tier system of service provision for the rich and the poor (Johnson 1995). In India health sector development has opened up significant inequalities and disparities in the standards of services available - for example between the services of large corporate hospitals compared to government-run institutions. However, economic reforms have sparked transformations across society, affecting hospitals, doctors and patients in the 'for profit', voluntary and government

sectors.[6] Therefore while inequalities in service provision have opened up across different institutions and practitioners, marketisation refers to transformations to the ideology of health service provision, as investment and 'for profit' orientations increase, and technology, information and risk play a greater role in shaping medical decision-making and health consumption practices.

In the 1930s, the English and German word for "economy" was defined as "the principle of seeking to attain, or the method of attaining a desired end, with the least possible expenditure of means" (Mitchell 2002:81). The origins of the word 'economy,' reflected an approach to the market characterised by economism - to achieve a stated end, using the least resources or means as possible. In India, the principle of economism in health care was a mechanism by which the cost of running an institution and the cost of treatment could be kept to a minimum. Given the limited availability of technologies and the financial resources of patients, health care was a 'good' in the sense that the principle aim of the provision of care was to satisfy need.

Marketisation and privatisation are often used inter-changeably to refer to the use of the market mechanism to finance and provide health services. However there are important distinctions between the two terms. 'Private', as opposed to public or state-owned institutions, is a descriptive term referring to a diverse range of service providers with varying ethical foundations for the ownership and management of capital and the delivery of health care. However, 'private' is also used to describe services provided in return for payment. Therefore services in the government sector are being privatised as capital expenditure is funded by private investments, and as user fees are used to recoup a nominal or significant part of the cost of service provision. In India, the term 'private sector' is more widely used to refer to the private practices of doctors, a diverse range of small nursing homes and larger hospitals in the mission, co-operative and 'for profit' sectors, who have played an essential role in extending health service provision beyond the limited coverage of the government sector in many regions (Baru 1998, Donner 2004). Given low levels of plan expenditure on health care and resourcing problems in the state sector, private hospitals and the private practice of doctors have been significant service providers of an essential service, generally responding to unmet health care needs (Kamat 1995, Evans and Lambert 1997, Bhat 1993, 1999, Jeffery and Jeffery 2008).

[6] The term voluntary sector is used to describe institutions run by the mission and co-operative sectors, which tend to provide services on a non-profit or cost-recovery basis.

Before 1991, the majority of public and private institutions functioned on the principle of economism, in order to keep running and treatment costs to a minimum. However the principle of economism did not necessarily work in the best interests of patient care, if hospitals scrimped on standards and equipments etc. in order to save money (Yesudian 1994, Phadke 1994). Although different incentive structures and moral frameworks may govern the supply of health care and the management of capital in private or state-run institutions, the delivery of the 'good' health care, did not undergo any radical revision in meaning whether it was provided by the state or private sector. The term marketisation refers to the wider configuration of ideas, technologies and practices integrating science, machines and business, which have revolutionised the global and local health care economy. Marketisation refers to the ways in which the provision of health care is being shaped by the globalisation of trade in health services, the commercialisation of the health care industry, the local context of a competitive marketplace, the fashioning of health care as a commodity, and the aspirations of the middle classes for social mobility. As economic reforms open up opportunities for work and consumption, the marketisation of health services refers to the informationalisation and technologisation of the economy, as entrepreneurship, investment, and risk become important values shaping social life (Read 2009:26). It represents the new values which have taken hold in the wider economy since India intensified policies of economic reform in 1991 – of ambition, entrepreneurship, investment, accumulation, growth, dynamism, mobility, competition and profit.

The marketisation of health services refers to the ways in which the values, practices and services provided by different hospitals and doctors are influenced by the activities of other actors in the health care market, as hospitals and doctors invest in human and technological capacity in order to compete for patients. The marketisation of health services reflects the paradigm shift as the health care industry brings new services to market to shape consumer demand, rather planning services in response to unmet health care needs. It denotes a shift in the ideology of health service provision, as health care is fashioned as a commodity; as technologies and specialist skills redefine standards and a professional duty of care; as the production of information becomes an essential value in medical practice; and as doctors emphasise risk by intervening to diagnose, repair and medicalise problems, rather than minimising the cost of health care to the patient. The marketisation of health services has produced a

more interventionist, aggressive approach to the treatment of health problems, as doctors intervene to repair and correct parts of the body-machine.

Marketisation has lead to the growth of corporate 'for profit' oriented health care, where the explicit aim of organisations is to provide the highest international standards in health care and to generate profit from doing so. Although there are still considerable differences between the institutional values of hospitals and the knowledge and practices of doctors working in the 'for-profit' and 'non-profit' sectors, this has not created a two-tier system of health care for rich and poor (cf Johnson 1995). Every patient, doctor and institution has been affected to a greater or lesser extent by wider transformations to the economy and the health system. Marketisation has produced dominant values shaping the definition of appropriate medical expertise, ideas of good health care, a successful career in medicine and the rules of the game by which doctors and hospitals compete for patients. Marketisation thus refers to the ways in which the good, health care, and the idea of 'good' health care have been transformed as a result of economic reforms. Marketisation is therefore a multi-dimensional concept, referring to the distinctive shift in the provision of health services and the economy of practices produced by market reforms, as investment in human and technological capacity, and competition become necessary strategies for health service providers.

The Marketisation of Health Care: From Social Good to Product

Callon, Méadal and Rabeharisoa (2002:196) note that when discussing the new, knowledge or service economy, one is expressing the possibility of a profound transformation of the rules by which markets function. This is essentially related to radical changes in the characteristics of the goods traded. The concept of an economic good implies a degree of stabilisation of the characteristics associated with it, which explain why it is in demand and why, being wanted as such it is being provided (ibid:197). Whereas a 'good' corresponds to 'need', a product is an economic good fashioned in its production, circulation and consumption. A contra-distinction then emerges between health care needs, such as access to safe, affordable obstetric care, compared to the practices emerging from the dynamics of a competitive marketplace, or the desire for social mobility through a career in medicine. A shift has occurred as economic agents devote a large share of their resources to invest in expertise, to market services, position products, technologies, and the services of doctors and hospitals as distinct from the services provided by competitors. Markets thus produce ideas and signals to indicate the quality and standards of services in order to influence the behaviour

of consumers, specifically targeting service provision to the middle classes with sufficient funds to pay for services. As Callon et al. (2002) note, product comes from the word, 'producere' (meaning to bring forward) emphasising transformation and promotion. *Producere* then

> "consists in a sequence of actions, a series of operations that transform it, that put it into a form judged useful by an economic agent who pays for it. During these transformations its characteristics change" (Callon et al. 2002:197).

Marketisation therefore refers to the development of a particular economy of practices, shaping the values, strategies and behaviours as organisations and individuals continually respond and adapt to new conditions, opportunities and threats. It refers to the ways in which markets produce dominant values as quality and expertise are defined, not as responses to health care needs, but as organisations and individuals respond to the behaviour of competitors, which become established as societal norms and values.

Economic sociologists have examined the ways in which the demand and supply of commodities are socially constructed as consumers and producers adapt to and are influenced by the behaviour of others (Callon et al. 1998, Fligstein 1996, Granovetter 1985, Lepinay 2007, Thrift 2005). The work of Gabriel Tarde is useful to understand process of technological diffusion and the collective psychology inherent in markets and choice. Tarde (Lepinay 2007 [1902]) was struck by the rapidity of the diffusion of new technologies, ideas and intellectual fashions. He emphasised the ways in which markets produce values shaping supply and demand, as institutions and people adopt similar practices and proven strategies for success. In consumption, Veblen was the first economist to note that people make choices to spend money not to maximise utility but to emulate the leisure class, to purchase services of high symbolic value (Hamilton 1982:20). As tastes and fashions continually evolve, organisations and people are constantly changing and adapting practices in light of new knowledge in which busy-ness and replication are generally rewarded. As Thrift (2005:3) notes,

> "Capitalism is therefore performative: it is always engaged in experiment, as the project is perpetually unfinished. Capitalism is therefore a highly adaptive and constantly mutating formation; it is a set of poised systems (De Lande, 2002). The whole point of capitalism then is precisely its ability

> to change its practices constantly, and those who run corporations must be able to surf the right side of the constant change that results, or risk being washed up on the reefs of irrelevance – and thrown into bankruptcy."

In contrast to the relative constancy of health care needs, suffering and illness, the market context of health service provision orientates institutions to alter and adapt service provision and practices in response to the behaviour of competitors in the marketplace. In the context of information asymmetries between consumers and service providers, standards and expertise become malleable terms, reflecting the importance of strategies to communicate the value of services and the authority of doctors to health consumers. The logic of competition orientates providers to compete for the custom of the most affluent consumers, to focus provision towards the most profitable areas of medicine, and to provide services with the broadest popular appeal.

Although markets produce dominant values, marketisation has created significant hierarchies and differences in medical practice. A "plurality of biomedicines" (Good 2001:395) has developed, reflecting the ways in which ideas about medicine are socially, culturally and morally embedded in the value systems of different hospitals, which evolve over time; and the knowledge, practice, values and social circumstances of individual doctors. Marketisation thus refers to the unmaking of the "plurality of biomedicines" as the dynamics of competition, technologies and broader patterns of socio-economic transformation re-configure medicine's moral and ethical lifeworlds. At the same time, marketisation refers to enduring differences in medical practice, reflecting the different values, knowledge, practices and ethical frameworks informing medical decision-making. Chapter 7 explores how differences in medicine are an important dynamic shaping the movement of patients around the health system, as 'choices' are marred by uncertainty about the standards of health care being provided by different hospitals and doctors.

Medicalisation, Pharmaceuticalisation and Modernity

In medical sociology, the concept of medicalisation has been used to understand the expansion of medical jurisdiction over social life. Medicalisation describes the progressive labelling of social problems or disorders in medical terms, which are understood through the adoption of a medical framework and treated with a medical intervention (Conrad 2007:5). As Scheper-Hughes and Lock (1987:53) argue, medicalisation inevitably entails a focus on the sick individual rather than the social causes of ill-health, thus transforming social problems into biological

disorders in individual diseased bodies. Social problems such as hunger, alcoholism, infertility, attention deficit disorder come to be viewed in purely biological terms and treatment focused on the manipulation of individual bodies, rather than attempts to transform the social structure and causes which give rise to the condition (Navarro 1980, Scheper-Hughes and Lock 1987, Nichter 1996, Van Hollen 2003).

In the west, the factors identified as encouraging or abetting medicalisation have been the diminution of religion; an abiding faith in science, rationality and progress; the increased prestige and power of the medical profession; the American penchant for individual and technological solutions to problems; and general humanitarian trends in Western societies. Rather than being explanatory, these factors have provided insights into the broader social conditions under which medicalisation has occurred (Conrad 2007:8).[7] The expansion of medical jurisdiction has been central to modernising trends internationally, associated with the industrialisation and bureaucratisation of society (Illich 1976, Navarro 1976, Madan 1980). However in India, with the exception of studies of childbirth (Van Hollen 2003, Donner 2003, 2004, Jeffery et al. 1989, Mishra and Ramanathan 2002, Pai 2000), medicalisation has primarily been studied as pharmaceuticalisation.[8] This not only reflects the high levels of demand for pharmaceuticals and injections, but the basic structure of the health care system in which the dispensing of medicines has been central to medical practice (Taylor 1976, Melrose 1982, Greenhalgh 1987, Kamat 1995, Nichter 1996, Evans and Lambert 1997, Das and Das 2006).

Research on pharmaceuticalistion has examined the demand for and belief in powerful modern medicines, as a coping mechanism to alleviate symptoms of the health depleting contexts of everyday life (Melrose 1982, Greenhalgh 1987, Djurfeldt and Lindberg 1975, Nichter 1996, Das and Das 2006). Concerns have been raised about the medicalisation of poverty as people prioritise spending on medicines over basic food (Greenhalgh 1987, Djurfeldt and Lindberg 1975). Other research has explored the role of the health care industry, advertisements, pharmacists, drug peddlers, doctors and consumers as agents perpetuating the pharmaceuticalisation of society, as the formal and informal health care system fosters belief and dependency in powerful pills to maintain or restore a functioning state of health (Melrose 1982, Nichter 1996, Kamat and Nichter 1998,

[7] The broader context of medicalisation in Kerala is discussed in Chapter 3.
[8] The medicalisation of birth and caesarean section rates are discussed in Chapter 4.

Saradamma et al. 2000, Das and Das 2006). It has been argued high levels of demand for pharmaceuticals reflect people's reduced tolerance for mild symptoms and benign health problems spurring the progressive medicalisation of bodily distress (Nichter 1996).

In contrast to approaches in medical sociology which focus on the power of medical discourse and the re-classification of uncomfortable body states and isolated symptoms as diseases (Barsky and Borus 1995, Nichter and Vuckovnic 2002, Conrad 2007), in India pharmaceuticalisation has focused on the social meanings attached to consumption and the ways in which advertising perpetuates consumer demand (Nichter 1996, Kamat and Nichter 1998, Ecks 2005). Analysis of pharmaceuticalisation has therefore portrayed medicalisation as consumer and industry driven. Given the wider availability of medicines from pharmacies, the role of the medical profession has been absent or marginal to studies of pharmaceuticalisation (Das and Das 2006). However, a recent study on 'self-medication' with antibiotics in Kerala, found only 18 per cent of antibiotics consumed in the two-week period were obtained without a prescription (Saradamma et al. 2000).

Das and Das (2006) argue the poor and marginalised are often blamed for the improper use of drugs in studies which fail to take into account the role of practitioners and the social contexts of people's lives in shaping medicine consumption. They argue this has led to the over-reporting of practices as self-medication when people have obtained medicines from practitioners. From observations in a government facility, they note doctors routinely write prescriptions for the same drug for any patient complaining of colds, coughs and fevers, where given the large volumes of patients, each 'consultation' lasts less than one minute. In this example, although patients do not have to pay fees for the consultation or the medicines prescribed if supplies are available, high volumes of patients in government and non-government facilities reflect the way in which patients often invest a considerable amount of time and money to consult a doctor for any health problem before taking medications (see also Kamat 1995, Evans and Lambert 1997). Although receiving a prescription for medicines is an important reason for seeing the doctor, the value of consulting a doctor and the role of the medical profession in perpetuating pharmaceuticalisation has been somewhat understated.

Arriving in Kerala with an original proposal to study practices of self-medication, my focus quickly altered when I was frequently told 'people will go running to the doctor.' Like other parts of India, consulting a doctor is the normative response to any illness episode. While western authors such as Illich (1976) have critiqued modern man's dependency on doctors and technologies, in India seeking treatment from a doctor at the onset of illness and the hospitalisation of birth have been important indicators of development, the basis for social reform movements (Kabir and Krishnan 1996) and a means by which to cultivate modern, educated identities (Lambert 1996, 1997, Van Hollen 2003, Donner 2003).[9] For example, Van Hollen's (2003:209-210) study of childbirth in Tamil Nadu examines the role of hospital births, as an essential way in which lower middle class women experience and come to see themselves as modern. Women refer to going to the hospital in terms of education, as a process of coming to know, thereby distinguishing themselves from those who are not modern – those who do not know or are illiterate.

Although a significant number of studies have examined health care seeking behaviour, the role of kinship networks, and wider health care consumption practices (Nichter 1978, 1980, 1996, Kumar 1995, Donner 2003, 2004, Unnithan-Kumar 2001, 2003, Lambert 1992, Lambert 1996, Evans and Lambert 1997), less attention has focused on the institutional basis of medical power and the role of the medical profession as elites, social reformers and mediators, encouraging dependency on doctors and the wider acceptance of modern medicine (Chapter 3). Rather than belief in science, rationality and progress as being the inevitable outcome of modernising trends, local intellectuals schooled in modern institutions have played a central role as cultural mediators and role models, mediating and shaping local engagements with modernity (Srivastava 1998, Prakash 1999).

Within this context it is difficult to discuss medical needs and consumer demands independent from the practice of doctors and the changing status of the medical profession. Given that people have been educated to consult a doctor at the onset of any illness and encouraged to unquestioningly accept medical authority, doctors have a considerable amount of power in determining the outcome of medical consultations. The nature of medical dominance is thus essential to understand processes of medicalisation, and the continued importance of local

[9] By way of comparison, in the early 20th century in the United States, the American Medical Association launched advertising campaigns to warn the public against the dangers of self-medication, in order to change consumer practices and preferences for medical consultations (Caplan 1989).

doctors as mediators promoting the wider acceptance of modern medicine, science and technology (Kabir and Krishnan 1996). Rather than viewing biomedicine as a monolithic practice, which has been transplanted across the globe, it is necessary to explore the historical and cultural specificities of local contexts within which biomedicine is practiced (Van Hollen 2003:15, Lock and Kaufert 1998:16). The particularities of the medico-scientific culture in India reflect the ways in which the practice of modern medicine has been adapted to suit local sensibilities and value systems, thereby increasing social acceptance (Marriott 1955, Carstairs 1955, Leslie 1976). This has in turn shaped the flows of patients around the health system, as healing powers are attributed to the knowledge, skills, and morality of individual doctors, rather than beliefs in universal science and standards.

Doctors have thus played a critical role as experts mediating between global science, technologies and local bodies, and as elites, public intellectuals, businessmen and healers embedded within local communities. Given the high social status of the medical profession compared to other members of society, the intersecting dynamics between marketisation and medicalisation reflect changes to the ambitions of the medical profession, the marriage between medicine and business, and changing powers differentials and status relationships between doctors and society, resulting from the wider growth of the middle classes. The following section draws on literature from western sociology, to examine transformations to medical practice resulting from the industrialisation of medicine.

Objectification, Commodification and Standardisation

Popular medical practice has undergone a radical transformation as its roots in family and community steadily cede to hospital based care and greater bureaucratic controls. The lifeworld of the contemporary physician bears few similarities to the portrait of the doctor in the writings of A.J. Cronin, which inspired Indian and British doctors of yesteryear - the black bag, house visits and gifts by grateful patients (Helman 2006).[10] In their place, highly qualified specialists practicing medicine from the confines of high-tech hospital suites have become the core of medical science. In the process, the art of medicine and the job of the doctor as comforter in times of uncertainty (Helman 2006) is being transformed by a moral economy of science, as the doctor is trained to identify

[10] The books of A.J. Cronin were popularised in the BBC radio and television series Dr Finlay's Casebook.

risks, to search for pathologies, to do all that is scientifically possible to intervene to repair problems, in the hope of improving and sustaining life. What scientific medicine has lost in the care of the patient is purportedly counter-balanced by greater knowledge, evidence and advances in treatment possibilities (Weatherall 1995, Barritt 2005, Timmermans and Almeling 2009).

In industrialised societies, medical sociologists have used the interrelated concepts of objectification, commodification, and standardisation in diverse ways to describe recent trends in medical care. These terms have been mobilised, signaling the loss of humanism in medicine, the depersonalisation of care, and the replacement of holistic care with bureaucratic controls (Timmermans and Almeling 2009:21). Criticism have stemmed from the meta-critique of authors such as Ivan Illich (1976), for whom modern man's confidence in the curative magic of medicine is a hubris, leading to the proliferation of disease categories; iatrogenesis from poisons and medical interventions; an engineering approach to repair the body machine; the burden of an expensive medical system; and the loss of autonomy of individuals and families to cope with the reality of pain, suffering and death. For Illich the medical bureaucracy has stripped people of autonomy and their ability for self-care, leading to an addictive and harmful dependency on modern doctors and medicines with deleterious implications for health.

For those placing greater credence in the value of medical work, bureaucratisation has been viewed as the main source of corruption, by divesting physicians of the previously held autonomy to define the quality of care (McKinlay and Arches 1985, McKinlay and Stoeckle 1987). In extremis, authors argued the medical profession was being proletarianised, as the intellectual work of the doctor was compared to that of a manual work, as the operator of knowing machines (McKinlay and Arches 1985, Navarro 1988, McKinlay and Stoeckle 1987, Turner 1990, Elston 1991). Critics argue the medical profession was undergoing a similar transformation to its labour processes to those described by Marx during the industrial revolution, as the independent artisan became incorporated into a factory-like production system, and in the process progressively lost autonomy. McKinlay and Arches (1985:161) define proletarianisation as,

> "The process by which an occupational category is divested of control over certain prerogatives relating to the location, content and essentiality of its

task activities and is thereby subordinated to the broader requirements of production under advanced capitalism."

As a result of capitalist expansion, critics argue even professionals are eventually absorbed into the mass of workers, stripped of control over the terms and conditions of their work. The proletarianisation thesis captures an important shift in the role of the medical profession from self-employed to employee status, bringing with it the opportunity to work with expensive capital equipment and the trade off of having to accept new controls over work imposed by management (Annandale 1998:227). Subsequently, the physician is no longer a solitary provider making personal social contracts with patients, but further integrated into teams of other doctors and technicians (Jennett 1986:23). Generally, the proletarian thesis has neglected the attitudes of doctors to transformations, and has provided few nuances regarding the ways in which hospital-based care has shaped the everyday working lives of doctors, professional identities, and variations in the attitudes of doctors towards patients and employers.[11] In the United States, Katz (1999) notes the rise of high tech health care has transformed medicine from a vocation into a career, as doctors adapt to a new bureaucratic and competitive environment. As Angell (1994 cited in Katz 1998:vii) notes,

"Physicians have evolved from practicing full-time healing to devoting increasingly more of their work time to developing business strategies to enable them to continue healing. Business concerns such as managed care, tax considerations, insurance regulations, and threats of litigation have assumed burgeoning importance."

The corporatisation of medical care has thus placed competing demands on doctors beyond the treatment of patients. Chapter 5 explores the extent to which physicians have lost autonomy and been brought under institutional controls as medical practice is transposed into large 'super-speciality' and corporate hospitals. As the model of the family physician cedes to hospital based care, appropriate treatment for health problems is being redefined by medical science and technological procedures, to image, manipulate, repair and correct different parts of the body-machine. Objectification has been used to describe the processes through which patient suffering and symptoms are marginalised, as the

[11] For example, Derber and Schwartz (1990:122) argue doctors' experiences differ from those who maintain autonomy and control over their work, while others accept their status as employees.

body is reconstituted as an object for medical investigation and manipulation. As Timmermans and Almeling (2009:22) argue,

> "Objectification in medicine denotes the primacy of the body or bodily states and measures over any other subjectivity due to technological manipulations… Objectification generally signifies dehumanisation because it involves a professional neutralisation of (patient) agency, an erasure of authenticity, an alienation of identities or a silencing or even displacement of the social world."

Objectification refers to shifts in language and thought as patient's suffering is transformed into an interesting case for medical practitioners (Helman 2006). In India doctors sensitive to the shared humanity of patients, describe with a sense of horror their memories of medical colleges days, seeing the sick engulfed by the tentacles of stethoscopes of young medical students, jostling to hear an unusual heartbeat or to palpate a patient's abdomen. Moving to private hospitals where the crowds and rush are less and patients are paying for treatment, objectification is occurring as patient's bodies become medical problems to be investigated before being treated. As Timmermans and Almeling (2009:22) note the dehumanisation of medicine that critics deplore is not an isolated process but is itself a stage in a broader therapeutic process aimed at restoring health, improving quality of life, enhancing performance or palliating suffering. Objectification reflects the necessary distancing of the lifeworld between doctor and patient, while having potentially positive impacts on patient health.

Drawing on the work of Zelizer (1979) on life insurance and the pricing of children, Timmermans and Almeling (2009: 24-25) argue commodification should not been seen as the triumph of the economic over the social sphere as "…the process of rationalisation and commodification of the world has its limits, as the market is transformed by social, moral and sacred values." Thus processes of commodification are deeply implicated in social lives and values. For critics, commodification is argued to have turned patients and their ills into dollar signs, dehumanising the sick and corrupting medical practitioners. In Kerala it is important to understand how processes of commodification are transforming the relationship between doctors, technologies, hospitals and patients - as the increased purchasing power of consumers brings new possibilities for advanced medical care; as the clinical skills of the doctor are augmented or replaced by the use of diagnostic technologies; as technologies and new services are marketed to

patients; as the hospital is reconstituted as a site for luxury consumption; and as doctors and patients interact in the more transitory context of the urban marketplace.

The third area of research they emphasise is standardisation. They argue standards rather than stable and homogeneous, are deeply political and dynamic entities that transform the ways people work and live together in the socio-material world (Timmermans and Berg 1997). In the UK, standardisation has been driven by the evidence-based medicine (EBM) movement, as clinical practice guidelines based on the best available scientific evidence inform medical decision-making and encourage more effective care (Lambert 2006); and as the use of technologies and the generation of evidence diminishes the vale of clinical skills (Nettleton et al. 2008). Moving to the health sector in India, standardisation is occurring as technological infrastructure transforms the ethical foundations of medical practice, as imaging technologies are integrated into the everyday practice of specialist doctors in large-scale hospitals. Standardisation reflects the routinised usage of visual technologies to rule out and visualise the extent of pathologies, further legitimated through discourses concerning medical litigation. Standardisation is occurring as technologies are used as abstract symbols to define higher standards in health care, as luxury technologies are diffused and used in the formal and informal market for medical technologies. Although it is important to understand the social processes through which technologies have come to define standards in health care, it is equally important to document how opinions and practices vary regarding the appropriateness of technological interventions across diverse sections of the patient and medical profession. The following section further examines the ways in which the technologisation of medical care and the market context of health service provision are transforming professional values.

Market and Professional Values

The rise of corporate care, bureaucratic controls and specialisation has transformed the model of the professions espoused in liberal societies. Previously the values of the professions were viewed as an important anti-dote, with the potential to avert the alienation of bureaucratic work and the subordination of profit to professionalism (Coburn 2006, Turner 1996). Weber saw an ethic of absolute ends had become increasingly impossible, but a commitment to an ethic of responsibility was a suitable motivation for a person with a vocation. As a vocation or calling, he saw the professional as a person motivated neither by

personal interest nor simply the desire for economic rewards (Weber 1978, cited in Turner 1996:129). In the classical sociological tradition, viewing medicine as a vocation reflected the idealised responsibility and rewards given by society to professionals, as authoritarian figures with knowledge and power to behave beyond sectional interests due to the intellectual and humanistic nature of their work (Mannheim, ibid: 129).

Parsons, Durkheim and Weber were the most significant advocates of this school of sociological thought, focusing on the ethical character of the profession, its service to the person and its grounding in technical knowledge (Coburn 2006, Turner 1996). Viewing medicine as a vocation also reflects the non-pecuniary benefits important to the self-perception of the profession, whereby rewards are augmented by a moral economy of prestige and gratitude for humanitarian service operating at both an interpersonal and societal level (Turner 1996). In return, professions were governed by a moral duty of altruism toward their patients. In Republic, Plato (341C) describes the altruism of the doctor that,

> "The physician, as such studies only the patient's interest, not his own…. The business of the physician in the strict sense is not to make money for himself, but to exercise his power over his patient's body…. All that he says and does will be done with a view to what is good and proper for the subject for whom he practices his art " (cited in Callahan and Wasunna 2006:160).

Professional ethics are often contrasted to market ethics, as set forth by Adam Smith (1986[1776]:119), which assumes an approach to economic activity in which each participant is the guardian of his own self-interest. In Smith's famous words,

> "It is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner, but from their regard for their own self-interest. We address ourselves not to their humanity, but to their self-love and never talk to them of our own necessities, but to their advantages. Nobody but a beggar chooses to depend chiefly upon the benevolence of his fellow-citizens."

In this context, power shifts to the flattery of the doctor to impel him/her to act with regard for the patient. While these standpoints appear to set up contrasting moral frameworks between a professional versus a market ethic, in practice such

a distinction is not discernable within patient financed health systems. Elsewhere Plato frames the question differently, by asking whether a doctor is a money-maker, an earner of fees or a healer of the sick, providing more nuanced insights into the diverging interests framing medical practice and decision-making (Pellegrino 1999:243). In the corporatised health system in the United States, it has been argued physicians have been encouraged and impelled by financial incentives to become money-makers for themselves and money savers for their corporate employers or investors (Pellegrino 1999:244). However this does not necessarily conflict with the patient's interest unless economic interests over-determine medical decision-making, leading to supplier induced demand.

Rather than focusing on what can be termed 'unethical' medical practice, as the blatant overuse of medical technologies for the sake of private profit, it is more important to understand the social processes shaping aspirations and career trajectories - as the values of business and medicine become intertwined, and investment in technological and human capital become a way of life in the health care industry. In the clinic, it is important to understand how the market context of health service provision and out-of-pocket expenditure shape medical practice and social interactions. This is occurring as technological infrastructure transforms the definition of a professional duty of care - as more sophisticated technological set ups shape the extent to which medical practice is standardised, and people increasingly seek care from specialist doctors trained to perform technical procedures for the diagnosis of illness. In this context different ethical frameworks of responsibility emerge - to provide a professional duty of care by using more costly technological inputs which hospitals and specialist doctors are equipped to perform, or to provide a professional duty of care by minimising the cost of care to patients. As the purchasing power of consumers in India increases alongside the availability of more sophisticated technologies, this is transforming definitions of a professional duty of care, and the extent to which doctors make discriminatory judgements.

Although literature in India has often focused on the corrupt practices of doctors (Yesudian 1994, Phadke 1994, Bhat 1993, Peters and Muraleedharan 2008), criticisms have often neglected the extent to which doctors continually make discriminatory decisions on the basis of the cost of medical care to patients. Doctors often economise and compromise professional judgements of the best care by prescribing cheaper medicines or interventions in order to suit the income of the patient (Nichter 1996). Therefore, it is important to understand how

technologies are redefining standards and a professional ethic of responsibility, as medical problems are routinely investigated using 'luxury' technologies; as more expensive medicines are prescribed and high tech interventions such as coronary artery by-pass operations or stenting are recommended rather than the clinical management of heart conditions. Rather than contrasting a professional versus a market ethic, it is important to understand how marketisation is redefining the ethical foundations of medical work across different social contexts and in the treatment of different patients.

Medical decision-making and the definition of a professional ethic of care are also changing, as perceptions of legalistic challenges shape physician's incentive structures, encouraging doctors to be guardians of their own professional interest (Dingwall 1994, Pellegrino 1999, Menon 2002, Kutty 2006). In India, the Consumer Protection Act (1992[1986]) is shaping perceptions of patients and medical decision-making, by codifying the doctor-patient in conflicting terms, whereby doctors and consumers are assumed to approach transactions as guardian's of their own self-interest. In the United States Pellegrino (1999:254) notes the relationship between doctors and patients is increasingly commodified, regulated by the rule of commerce and the law of tort rather than the precepts of professional ethics, as beneficent, altruistic, and patient-oriented. He argues,

> "The contrasts between business and professional ethics are striking. Business ethics accept health care as a commodity, its primary principle is non-maleficence, it is investor or corporate-oriented, its attitude is pragmatic, and it legitimates self-interest, competitive edge, and unequal treatment based on unequal ability to pay. Professional ethics, on the other hand, sees health care not as a commodity but as a necessary human good - its primary principle is beneficence, and it is patient-oriented. It requires a certain degree of altruism and even effacement of self-interest."

The analysis sets up a dichotomy contrasting a market ethic and an idealised professional ethic, in contrast to the more complex realities of medical practice. In India, doctors have to work within the constraints of a patient financed health care system, now offering more complex treatments and advanced care, and thus a professional and a market ethic cannot easily be separated. At the same time medical practice has become commercialised as different health care providers crowd the marketplace and compete for patients. Medical decision-making and the relationship between doctors and patients is changing as more transitory relationships develop in the urban marketplace, and as patients consult super-

speciality doctors in profit oriented institutions in the hope of receiving higher standards of care. Discourses of conflict and increased technological capacity have created divergent ethical frameworks shaping doctor's moral sensibilities towards medical practice, patients, the institutional context of medical practice, alongside different personal ideals and motivations. Rather than contrasting a market ethic and a professional ethic, it is necessary to understand how the market context of service provision and technologies are redefining professional responsibilities, social relations of care, and how ethics vary across different institutions and doctors. Thus it is important to understand how marketisation has created different frameworks guiding appropriate conduct, as personal, professional and economic interests converge in medical decision-making, according to the skills base, values, attitudes and contexts within which different doctors practice medicine. The following section shifts the focus to examine the ways in which marketisation is reconstituting patients as consumers.

Consumerism, Choice and Inequalities

Market discourse implies doctors have become mere service providers competing amongst themselves for patients, and seeking to maximize their income by selling their professional expertise. This alludes to greater equality between provider and purchaser, as consumers have greater choice regarding health consumption practice. Proponents argue 'consumers' are free to choose among providers, selecting the best 'buy' suited to their individual needs. Thus competition is argued to reduce the cost of health care, while quality is maintained or improved (Enthoven 1980, Herzlinger 1997, Johnson 1995). It is claimed patients can access care on their own terms and not the doctor's, and in the process medicine will become de-mystified (Pellegrino 1999:244). Within this discourse patients are encouraged to become active citizens, who embrace the marketplace to exercise informed choices, to participate in the marketplace and to be entrepreneurial in shopping around for appropriate health care (Jeffery and Jeffery 2008:62, Rose 1999, Henderson and Peterson 2001, Lupton 1997a). In ideological terms at least, this reflects a significant shift from the passive-dependent sick role to the active-consumer patient. It implies that consumer choice and health shopping are sufficient mechanisms by which to raise standards in health care.

Market discourse neglects the specificities of health care consumption - that health care is a market for expert services and thus it is not necessarily possible for patients to judge the quality of services. It neglects the fact that consumption

is often a one off event and consumers are unable to reverse decisions if services are found to be lacking. Furthermore, given that price can act as proxy for quality of services (Nichter 1996) and the potential harm of consuming poor quality services, there is little evidence to suggest competition reduces the cost of services, given preciousness of life and health.[12] Despite the limitations of consumerism in health care, the principle is often presented in terms of personal empowerment and freedom of choice (Rose 1999, Henderson and Peterson 2001, Lupton 1997a). Patients are urged to refuse the paternalistic attitudes of doctors, to question medical expertise, to 'shop around', to actively evaluate doctors' services and to go elsewhere should the 'commodity' be found unsatisfactory (Lupton 1997a:373).

Applying the consumerist ideal to the realities of emergency obstetric care in rural India, Jeffery and Jeffery (2008) observe how power imbalances between doctors and patients are maintained in both state and market-led provision. However in a market-based system, discrimination is primarily on the basis of whether patients can afford to pay for services or not. They argue the market mechanism has done little to empower consumers to demand better services on their own terms or to change inadequate services. People critique the state's failure to provide adequate services, which are viewed as a citizen's entitlement, as dependence on the private sector is an important cause of household indebtedness and impoverishment. They argue claims that reforms have encouraged people to embrace the market have been over-stated and the market works as an ambiguous saviour.

In Kerala, where standards of service provision in the government and private sector are higher than many other parts of India, it is important to examine the extent to which legitimacy has shifted from the public to the private sector, and the impact of marketisation in empowering consumers to access higher standards in health care. Although market discourse implies greater equality between consumers based on the ability to pay for services, it is necessary to examine how inequalities in service provision are reproduced through the market mechanism, the ways in which marketisation is changing patient perceptions of health service provision and the extent to which standards in health care are determined by services providers.

[12] Refer to p142, which discusses the market rationality for consultation charges to increase. The social logics of competition to increase the provision of more expensive services is further discussed in Chapter 5 (on hospitals) and Chapter 6 (on technologies).

The Moral Economies of Medicine

Appadurai (1986:2) observes economic transactions involve an exchange of values. As the health care economy in Kerala becomes linked to global circuits of capitalism, technologies, and higher standards in health care, economic transformations have provoked an *ex*-change of values in health service provision, as the cost of technological inputs, charges, salary expectations and visions of doctors and the industry veer towards global norms compared to the more modest incomes of the majority of people paying for health care from locally earned salaries. As the benefits of private health care have been unevenly distributed, and access to services predicated on the ability to pay, the relationship between the lay public, the medical profession and private hospitals have become important sites through which contemporary concerns are brought into critical juxtaposition in everyday discourse and the media. On the one-hand, the medical profession and private hospitals are excoriated for generating private profits from human suffering. On the other-hand private investment in technology and human capital has been a necessary pre-condition to stimulate investment to meet consumer demands for higher standards in health care.

Contemporary concerns regarding the morality of the medical profession and the health care industry mirror wider debates on India's new middle classes. On the one-hand the middle class have been castigated for their 'selfish materialism' and insensitivity to the poor (Varma 1998:89). On the other-hand, celebrants argue the new middle classes are no 'greedier' than the old one, that the chief difference is more self-confidence and less hypocrisy (Das 2002 cited from Fuller and Narasimhan 2007:121). These debates have particular resonance for the medical profession, as the self-professed discourse of altruism and humanitarian service of the 'divine and noble profession' jar with an emerging business and service-oriented ethos of the health care industry. Secular trends in medicine in India mirror broader trajectories internationally, as deference to traditional forms of authority decline (Lupton 1997b). In India, trends are accelerating as people with different social backgrounds and expectations of respect enter the medical profession; as the number of authoritarian doctors dressed in white coats declines relative to those favouring a smart shirt and tie; as the social and material distinction of the medical profession declines relative to the growth of a newly affluent and educated middle class; and as patients spend more time in consultations rooms and begin to ask more questions of their doctor.

While inequalities in India endure, media-scapes, discursive and practical shifts are transforming the social imaginary from a poor developing country into a nation of and for the consuming middle classes (Appadurai 1990, 1995, Dwyer 1999). In the fieldwork context, the vision of a different era is sustained by the conspicuous consumption of newly affluent Gulf migrants and consumerism across different sectors including health care. Changes to the epidemiological profile of patients provide further evidence of a changed scenario, from relative poverty to affluence, as the majority of patients seek professional advice for Type II diabetes and heart disease, although the problem of communicable diseases endure.

Carrier et al. (1997) develop the theory of *virtualism* to capture the ways in which economic practices are becoming abstracted as a result of the ongoing global restructuring of production. Following Polyani, Carrier (1997:2) distinguishes two forms of economic abstraction - at the level of practical organisation for the provision of services and employment (e.g. the outsourcing health care overseas; the transformation from general medicine to high tech health care; the redefinition of health care as marketed products and services; the migration of health care professionals etc.). Secondly, as economic activity is restructured, abstraction at this formal level leads some people to adopt an abstract economic world-view, which is taken to be the fundamental reality that underlines and shapes the world.

> "Those who adopt this view of the world can be said to perceive a virtual reality, seemingly real but dependent upon the conceptual apparatus and outlook that generate it. Perceiving a virtual reality becomes virtualism when people take this virtual reality to be not just a parsimonious description of what is really happening, but prescriptive of what the world ought to be; when that is, they seek to make the world conform to their virtual vision."

In India, the rise of corporate hospitals has created new ways of seeing and being in the world, as business, innovation, 'upgrading' and marketing become part of everyday practice in the health sector. Recent ethnographic research on capitalism has focused on the moral basis for enacting the terms of capitalist behaviour (Browne 2009:3, Garsten and Hernes 2009, Rajak 2009, Pitluck 2009, Osella and Osella 2009). Health care provides a rather unique moral conundrum, as a business endowed with the social responsibility of providing a moral good,

and as a consequence of doing so efficiently, to make a profit for investors. Therefore in contrast to companies, who promote an ethos of corporate social responsibility in order to improve their public image (e.g. Rajak 2009), the health care industry is limited in its ability to reconcile public perceptions of the contradictions between medicine and profit - as providers of a vital, potentially life-saving service. Furthermore, commitments to international standards in technologies and infrastructure preclude the development of a more affordable and equitable health system.[13]

Across health service providers, charging less threatens to undermine the moral foundations of the market mechanism, by reconstituting prices as malleable. Therefore as a service industry providing a moral good, it is important to understand processes of commodification as medicine has become, and is in a perpetual state of *becoming a business*. This is occurring practically as health services are marketed to patients; as competition shapes the types of services provided; as foreign and local companies market new technologies and services to doctors and hospitals; as medicine becomes a route to social mobility for the aspirant middle classes, and as medical education is privatised. Economic morality is about making the world conform to an abstract model of health care as a commodity. Even though the health care system is frequently dealing with matters of life and death, economic morality is about making the sector function like any other business, in which health care is viewed as a commodity rather than a basic need, and access to services and medical education is based upon the ability to pay.

The growth of the private sector has achieved many notable feats and standards in health care are improving, increasing the diversity and quality of services available to local consumers. As Osella and Osella (2009:s202) note, capitalists are not just idly making money. In the process people are 'doing good.' It is therefore necessary to examine the different frameworks, discourses, images, networks, technologies and people integral to capitalist production in health care, and the ways in which transformations are meaningful in the lives of different doctors and patients. Economic systems, whether pre-capitalist, socialist, communist or capitalist are inherently moral frameworks, governing the production, circulation, and distribution of objects. Thereby economic systems constitute relationships between persons and things and in the process articulate

[13] Discretionary discounts are given and charitable activities are also part of the working lives of private hospitals, further discussed in the main body of the thesis.

moralities of what is good and proper in social life, which are then subjected to divergent evaluations and critiques.

Mackintosh (2006) argues health care is a 'fictitious commodity' in the Polyanian sense, because the treatment of human suffering is one that can never be fully commodified.[14] Fashioning health care from a need into a commodity requires a considerable amount of practical and ideological work, to transform the uncertain world of illness, suffering and the unanticipated need for health care into a rationalised, objectified, desirable commodified form. Therefore it is necessary to understand the material resources and discourses available to transform the moral vision of health care, the role of interactions and experiences in the health care economy, which assist the perpetuation of medicine as a business - of technologies as essential values in medicine and symbols of progress; of diagnosis as the most important aspect of health 'care'; the conceptualisation of society as essentially composed of the middle classes; the view of patients as potential litigants; of health care in Kerala as cheap; and the job of the doctor as equivalent to any other service industry. It is not to argue that these mental maps of the state of the world are deeply held beliefs, but orientations that help to sustain the moral reproduction of medicine as a business in the minds-eye of entrepreneurs, institutions and doctors, operating within a commercialised health care system. Markets produce *economic moralities* that through the marketplace rules, habits, norms, conventions, values and subjectivities are produced, accepted, dissected and critiqued.

Economic moralities are produced through the experiences of doctors and patients in transitory interactions - as the moral economy of deference and gratitude given to the doctor in return for healing services is encroached upon by the quantitative evaluation of services in monetary and technological terms; and as the ideal of cure is reduced to the management of chronic illness. This has led to transformations in the public discourse of the medical profession, as the image of the doctor engaged in 'self-less service to society' or demi-god is being transformed to the doctor as a businessman or service provider; from the hospital serving humanity to the hospital as a servant of science and provider of high tech

[14] The concept of the self-regulating market, according to Polanyi was based on three "commodity fictions" of land, labour and money. He analysed the extension of this concept to all economic institutions of society as "market utopianism." Mackintosh (2006) notes how health care is subject to double movements, of enforced liberalisation and collectivist responses. In Kerala, such double movements are limited – there are occasional informal collections in neighbourhoods for treatment, the rallying of family members and resources, small discounts on treatment bills, and some charitable activities of hospitals. However such activities are limited that generally the market rules of distribution and prices prevail.

super-speciality care; from a moral economy of closeness and high levels of inter-personal trust idealised by patients, to increased shopping around for health services in the urban marketplace; and as medical dominance and the unquestioned omnipotence of the doctor is challenged as patients ask more questions of their doctors (Kutty 2006).

It is important to examine the incompleteness of the project of medicine becoming a business, and the frameworks within which different behaviours, worldviews, and subjective experiences are reproduced and made sense of. By doing so it is possible to understand the mechanisms by which medicine is becoming a business and health care a commodity, and the extent to which the commodity status of health care is accepted and contested by different doctors, hospitals and patients. The final section examines the role of information in the health care economy.

Informationalisation of the Health Care Economy

The diffusion of 'high' tech health care has had two significant impacts on the healthcare economy. Firstly it has created significant hierarchies and extended choice for consumers between different service providers and hospitals. Secondly, it has increased the extent to which knowledge plays a central role in the operation of the health care market. Estrin and Grand (1989:3) emphasise the importance of information and incentives in a market system that "when markets work well, they are excellent ways of processing information while simultaneously providing incentives to act upon it." Although information may be important to the operation of a market, encouraging reflexivity on the part of economic agents, this is not necessarily conducive to improve health care outcomes and the development of relations of trust between doctors and consumers. Castells (2000:16-17) characterises this distinctive shift in the informational mode of development in which,

> "The source of productivity lies in the technology of knowledge generation, information processing and symbolic communication…. What is specific to the informational mode of development is the action of knowledge upon knowledge itself as the main source of productivity."

The informationalisation of the health care economy refers to the centrality of technologies in producing knowledge of bodily states and diagnosing illness, as a core productive activity in the health care economy is the production of

information. The informationalisation of the health care economy also refers to the ways in which information about health care circulates in the media, television programmes and the vibrant public culture of health related events. On the one hand information has increased awareness of 'new' diseases, perpetuating medicalisation as health anxieties and knowledge of new products and services provided by different centres increase. On the other hand, information has been circulated about poor services, problems of corruption, the unethical practices of doctors and the failings of different hospitals, which serves to undermine trust in service providers. Information is also transforming the medical profession's perception of patients, as knowledge of cases brought against doctors in the consumer court encourages doctors to view patients as potential litigants (Dingwall 1994). Chapter 7 examines how perception of declining levels of trust are created, and how impact of declining levels of trust on consumer behaviour and doctor's demands for technologies.

Conclusion

This literature review has combined analysis of the ways in which economists think about the economy and the functioning of markets, with empirical and historical literature on transformations to the provision of health services. The ideas of economists and the marketised context of health service provision have created new opportunities and ways of perceiving the world. What is missing from the ideas of economists is analysis of the ways in which local cultural values, global and local inequalities and history shape the values of actors and the workings of health care market. By analysing the development of the knowledge economy as an historical process, it is possible to trace the different pathways to marketisation and medicalisation, and to understand the extent to which the ideas of economists shape the behaviour and perceptions of different doctors, patients and other stakeholders in the knowledge economy in Kerala.

Introduction to Kerala

Kerala state is the narrow strip of fertile land in the southwestern corner of the Indian subcontinent, bordered between the Arabian Sea to the west and the Western Ghats to the east. It is a long narrow strip of land, with a coastline extending for 580 kilometres (km), and a width varying between 35-120 km² (Kumar et al. 2009). In contrast to other areas of India where there are significant social and spatial distinctions between rural and urban areas, Kerala is one of the most densely populated regions in the world, with a largely peri-urban population. This has considerably increased the acceptance and diffusion of

modern values, for example in health care and education across most sections of society. In international development literature, the state gained a reputation for its achievements in social development, which favourably distinguished Kerala from other parts of India and the developing world. Despite low levels of economic development, Kerala achieved over 90 per cent literacy and has a life expectancy of 72 years for males and 75 for females (Tharamangalam 2006). Kerala's development trajectory without industrialisation and early demographic transition therefore attracted considerable local and international attention, becoming reified as a model for other parts of the developing world (Halstead et al. 1985, Sibbons 1992, Caldwell 1993, Franke and Chasin 1994, Heller 1999, Tharamangalam et al. 2006).

The state was formed in 1956 by uniting the three Malayalam-speaking areas of India – the erstwhile princely states of Travancore in the south, Cochin in central Kerala and Malabar, formerly under the direct rule of the British as part of the Madras Presidency. The population of 32 million is composed of Hindus (60 per cent), Muslims (22 per cent) and Christians (18 per cent). The forward communities are a small Brahmin community, the Nayar community (Hindu) and the ancient population of Syrian Christians. The thesis also refers to the upwardly mobile *Ezhava* or *Thiyya* community (Hindu) and Muslim community, who have significantly improved their social status through community based reform movements, education, migration, consumption and business (See Osella and Osella 1999, 2000, 2008).[15]

The three regions of Kerala differ slightly in community composition and economic outlook. Travancore in the south is a Hindu majority area. As the administrative capital of the state, government employment has been more important to development in and around Trivandrum (Thiruvananthapuram). In central Kerala, a larger number of Christians are found near Ernakulum (or Kochi), and the city has developed as the business capital of Kerala. The largest number of corporate hospitals are found in this area, many of which are leading the expansion into medical tourism. The fieldwork was conducted in a city in Malabar, with a population of 0.5 million, divided equally between Hindus and Muslims. The small Christian community constitutes approx. 5 per cent of the population. This region was selected for study because the expansion of the health sector has been particularly rapid due to high levels of migration to the

[15] In the Malabar region, the largest Hindu Other Backward Caste (OBC) group are known as *Thiyyas,* whereas in Southern and Central Kerala, the community are known as *Ezhavas*.

Arabian Gulf countries (cf Dilip 2008). The Malabar region has also been relatively less well researched compared to southern areas. The city is an important medical centre for surrounding districts although large super-speciality hospitals have also developed in neighbouring districts. Hospitals and doctors have also extended medical practice into neighbouring rural areas, further strengthening linkages between the city and the periphery.

Malabar is often seen as falling slightly behind the Kerala model in literacy and other indicators for social development.[16] This reflects the particular histories of colonialism, affecting the later development of health care and education under the direct rule of the British (examined in Chapter 3). The region makes an interesting case study to understand the local impacts of the marketisation of health services, as an area in which 'super-speciality' medicine has only been popularised during the last fifteen years. It may provide insights into trends occurring in other parts of India and the developing world, as market reforms and economic development rapidly transform local ecologies and economies of health care. Chapter 1 examines the rise of market ideology and economic transitions at an international, national and regional level, as trade in health services becomes the overarching framework for development.

[16] Although measures of social development are produced by each district, and are available on government websites, academic research has placed less emphasis on variations within the 'Kerala model', with the exception of research on migration, which has highlighted variations by community and district (e.g. Zachariah et al. 2003).

Chapter 1:
Markets, connections and the global economy of health care

The Rise of Market Ideology:
From National Development to Global Trade in Health Services

The internationalisation of trade in health services has become the overarching context for the development of health care systems in the developed and developing world. This chapter examines the ideologies informing the global shifts in the governance of health, welfare and the economy, as the market becomes the dominant paradigm for the supply and distribution of most goods and services. Rather than naturalising the market as man's innate tendency to barter, truck and exchange (Smith 1986 [1776]), or consumption as the innate propensity to satisfy human needs, desires and security from the marketplace, it explores the ideologies, stakeholders and practices emerging to shape the architecture of the global economy and the marketisation of health services. It examines the paradigm shift, as marketisation involves not only the transformation *in* ideology towards the market provision of health services, but also a transformation *of* ideology governing health service provision. As Moran notes (1998:19) notes,

> "….the rise of the market, like the rise of power of any other social order is produced by strategies, decisions made by powerful interests. Its rise is not a simple response to cost burdens, but is determined by the strategic calculations of those interests and the success with which calculations shape policy outcomes. Those calculations, in turn are mediated by ideologies: structures of ideas that emerge and prosper because they can legitimise the interests of powerful groups."

To understand the rise of market ideology and the growth of the knowledge economy in medicine, this chapter examines the different layers of stakeholders shaping the architecture of health service provision operating at the global, national and regional levels. It explores the shifting ideology of health care produced through transformations, as international standards and technologies come to dominate the vision for health service provision.

Transitions in Economic Development and Health Care

Transformations to health service provision in India have been precipitated by shifting ideologies of health, health care and the economy, as strengthening transnational linkages have developed to evolve the model of global capitalism over the last thirty years. Neo-liberalism marks a distinct shift from the doctrine of neo-Keynesian welfarism, which shepherded the long post-war boom in the developed and newly independent colonies of the developing world (Harvey 2005, Baru 1998). Until the late 1970s, neo-Keynesian welfarism privileged the role of government in the management of national economies setting macro-economic goals to achieve full employment, the control of the money supply and inflation, and the promotion of economic stability through fiscal expenditure to manage business cycles (Keynes 1964).

Government intervention in health and welfare therefore reflected the central role of the nation state in the wider management of the economy, as an important corrective to smooth out what were viewed as the qualitative failures and instabilities inherent in the market mechanism (*ibid*:228). Intervention reflected concerns for the social inequalities reproduced through the distribution of goods and services under the free market mechanism, particularly in the social sectors of health and education (Johnson 1995, Pierson 1991, Pierson 1994, Bloom and Standing 2001, Jeffery and Jeffery 2008). The principle of welfarism reflected the importance placed on population health, which was viewed as a necessary basis for economic development (Doyal and Pennell 1979, Jeffery 1988). Health was a defined as a social good with positive benefits for society as a whole, and access to health care an individual right, in the social contract between the developmental state and citizen.

The principles of welfarism, state regulation of private industry and the nationalisation of some industries were anti-dotes to reform capitalism, more pressing in the context of a polarised economic order, to ward off the spectre of communism in Western Europe and the developing world (Clarke 2002, Doyal and Pennell 1979, Marshall 1981). In the immediate post-colonial period in India, the Nehruvian state was committed to development through planning, to transform India into a modern nation, where in Nehru's famous words, 'its new temples were to be its dams and its steel plants' (Fuller and Harris 2001:8). Following the intensification of economic reforms in 1991, as development has shifted from manufacturing to the service or knowledge industries, private hospitals have become the new bastions of scientific development and progress. Ideologically

health sector development is particularly important in transforming the local, national and international imaginary of India, as international medical tourists seek treatment in India, and high tech hospitals, highly qualified consultants and pristine, sanitary conditions, gradually override images of dirt, disease and poverty.

Science, technology, industrialisation, education and knowledge have been central pillars in the project of India becoming a modern nation (Prakash 1999, Das 2002, Lourusamy 2004). Although Indian modernity has maintained a similar trajectory, the pathway to development has shifted from state led programmes and protectionism, to a coalition between the state, the private sector and international interests. During the post-independence period, the government's five-year plans provided coherence to the management of the national economy, privileging the role of the state for development in key areas – power, heavy industry, and capital goods (Jeffery 1988:109). Although the economy has continued to grow steadily since independence, neither the state nor market led development has managed to make significant inroads to absorb the high levels of under-employment and unemployment, which continue to restrict the quality of life in many areas of India (Ghose 1999, Jeffrey et al. 2008, Tharamangalam 1998).

In the immediate post-independence period, the national government pursued a policy of protectionism, limiting the importation of foreign technologies, private investment, and at times placing restrictions on the migration of doctors wishing to travel overseas.[17] The mantle for development, science, and modernity was therefore in the sole hands of the state in policies promoting relative isolation from the global economy. At the same time the government made commitments to reduce inequalities in wealth through the development of welfare provision (Jeffery 1988:109). In health care, Nehru's visions led to the establishment of elite medical colleges, most notably the All India Institute of Medical Sciences (AIIMS) as India's premier institution in order to develop medical expertise and excellence in teaching and research (Madan 1980, Baru 2005).

In the first five-year plan (1951-56), the number of medical colleges rapidly expanded to forty-two (Madan 1980), reflecting the influence of the British model in health policy. Rather than establishing a system of service provision and

[17] Although I have not found other references, several doctors told me how their passports had been withheld for sometime during the late 1960s, after which time emigration became more common (see Jeffery 1979, Madan 1980).

medical education in order to cater to the unmet health care needs of the rural poor majority, emphasis was placed on the training of a small number of elite doctors, using the British curriculum in medical education (Banerji 1985, Jeffery 1988). The national health system was thus shaped by the ideas of elite politicians and doctors influenced by the British model, which made few inroads to redress the significant disparities in health service provision between rural and urban areas.[18]

As growth oriented development dominates health policy, preventable deaths and unmet needs continue to endure in many parts of the country, although figures are improving.[19] At a national level, education and health status remain relatively poor. India's basic health care and primary education systems were ranked 101st out of 131 countries by the World Economic Forum (WEF) in 2008. Data from the United Nations places India at 148th out of 194 on the number of tuberculosis cases per 100,000 persons, and 48th out of 89 for infant mortality rates (Subramanian et al. 2008). In spite of considerable health disparities and poor foundations in public health, the corporate model has become the dominant model for the expansion of health service provision, promoted by the national government and the World Bank, which has funded corporate expansion (Lefebvre forthcoming, Yamey 2001).[20] This further intensifies the divergence between the health care needs of the majority and health service provision, exacerbating the urban, curative high technology bias also critiqued during the post-colonial period (Madan 1980, Banerji 1985, Jeffery 1979, Jeffery 1988, Nandy and Visvanathan 1990).

The Global Contexts of Health Sector Reform

Following economic reforms, health sector development has been influenced by the corporate model for service provision established in the United States (Baru 1998, Lefebrve in press). Yet even within the United States, the corporate model

[18] This contrasts to the health policy of China, which faced similar problems to India at the time of independence. The collectivisation of agriculture increased food security for the rural poor, and in health care, minimal training was provided to large numbers of 'barefoot doctors' to serve basic health care needs of the rural poor (Sidel and Sidel 1972).

[19] For example, the infant mortality rate has declined in India from 70 infants per 1000 live births in 1999 to 57 in 2005-06. Under-five mortality rate per 1000 live births was 85 in 2002. According to MMR-RG, maternal mortality ratio per 100,000 live births is 301 in 2001-03. (WHO India Country Profile, Available at http://www.searo.who.int/EN/Section313/Section1519_10855.htm. Accessed 12th June 2009.

[20] For example, in Maharashtra, the bank granted a loan of $134 million, with the condition that 5 per cent ($7 million) of the amount is allocated for the construction of a tertiary private hospital in Mumbai, to be run by a private hospital group (Yamey 2001). Further examples of the way in which the corporate model has become dominant are provided throughout the chapter.

has produced the most expensive and one of the most inequitable health care system in the world, with 44 million citizens uninsured or inadequately ensured (Ranade 1998, Moran 1998). Critics note, as trade in health services dominates the global architecture of health care reforms, the United States has been transformed from health policy laggard to leader, as market principles and trade in high value technologies intensify across the globe (Ranade 1998:2). In 2003, health care spending in the United States reached 15.2 per cent of GDP, 24 per cent higher than the next highest country, and almost twice the spending level of many OECD countries, such as the United Kingdom and Canada (OECD 2006). By 2017 expenditure is predicted to rise to 20 per cent of GDP, equivalent to $4.3 trillion (Keehan et al. 2008).

Within health care systems literature, the rise of market ideology has been polarised between economic explanations forwarded by proponents, who argue market competition is the only effective solution to control escalating health care costs to promote efficiency (Enthoven 1980, Herzlinger 1997); and ideological explanations which note the crisis of the welfare state and of social democratic principles more generally (Alber 1988, Huber and Stephens 2001, Castles 2004). However, ideological explanations of a welfare crisis fail to place health policy within the broader context of economic restructuring, as countries open up all aspects of their economy to international competition. In health care, critics note the principle of welfarism ceded to the principle of enterprise, as the enclosure of health care from wider commercial and business interests increasingly became viewed as unproductive (Baru 1998, Pollock 2004, Pierson 1994).

The international context of market reforms has led to the emergence of a key set of trans-national bodies and stakeholders, shaping the architecture and orientations of private and public health systems globally - namely the World Bank, the International Monetary Fund, the World Trade Organisation, the medical technologies industries, corporate hospital groups, management consultancy firms, and venture capitalists (Barnett and Brown 2004, Holden 2005, Pollock 2004). Trans-national linkages in health service provision have intensified from the 1970s onwards, as corporate service providers first grew in local markets before extending their interests internationally (Salmon 1987, 1995, Higgins 1988, Baru 1998, Barnett and Brown 2004, Holden 2005). These interests have shaped the international agenda of technology and 'for profit' driven service provision, through ongoing expansions into overseas markets and

the continual diversification of product lines to meet and expand the demands of middle class consumers (Salmon 1995).

In the UK, market reforms were introduced into the National Health Service (NHS) under the auspices of Private Finance Initiatives (PFI), later renamed and exported internationally as Public-Private Partnership (Pollock 2004, Qadeer and Reddy 2006, Ollila 2005, Raman and Björkman 2008). In the UK, private finance has been a mechanism by which to increase capital investment in welfare provision without raising general taxation. As a result, increasing amounts of tax revenue are being paid to private firms to provide welfare and other essential services. Thus in areas of government where retrenchment of the state has been politically unfeasible, the provision of state services became a wider source of entrepreneurship and wealth creation in the economy (Pollock 2004, Moran 1995, Higgins 1988).[21]

Health Sector Reform in India

Although the number of relatively small and large scale private facilities increased during the 1970s and 1980s, the currency crisis of 1991 marked a notable shift in the management of the economy and the provision of health care, when the government accepted a loan from the International Monetary Fund and agreed to devalue its currency by 20 per cent (Joshi and Little 1996, Johri and Miller 2002). By accepting the loan, the government agreed to cutback social expenditure to service debt payments and to open up its markets to foreign goods and direct investment (Johri and Miller 2002, Joshi and Little 1996, Rao 1999, Rajan 2006). Since 1991, the government's commitment to provide for the health care needs of its citizens have declined, as the World Bank has played a greater role in developing India's health service provision (Rao 1999, Baru 1998, Qadeer et al. 2001, Jeffery and Jeffery 2008). [22] Support for the private sector became a condition of structural adjustment programmes, as state provision was branded as costly and inefficient (Rao 1999, Jeffery and Jeffery 2008). Government spending on health care fell from its low base of 1.3 per cent in 1991, to 0.9 per cent, making India the sixth lowest country in the world for state expenditure on

[21] Although the NHS is still funded through general taxation and widely regarded as a socialised system of medicine, 52 per cent of NHS spending takes place in the private sector (Salter 1995, cited in Pollock 2004).

[22] Subsequently, the Indian government has become a willing partner in reform, taking cumulative loans of more than $44 billion, making it the Bank's single largest borrower (Abbasi 1999). Through its private finance wing the International Finance Corporation, the World Bank has funded new hospital projects by up to 20-30 per cent (Lefebvre in press).

health care - ahead of only Burundi, Myanmar, Pakistan, Cambodia and Sudan (Sengupta and Nundy 2005).[23]

In India, privatisation has increased the scope for private investment in public managed institutions and the wider growth and support for the private sector. Advocates argue public-private partnerships can increase efficiency and reduce the financial burden of private health care on the poor (Raman and Björkman 2008). Although the stated aim of reforms has been to improve the accessibility, affordability and standards of essential care available to poorer segments of the population (Berman 1995), there is little evidence to support this claim as investments have been focused on expensive technological inputs and cost recovery mechanisms (Qadeer and Reddy 2006, Nayar and Nair 2006), thereby increasing inequalities in service provision within public sector institutions.[24]

In the private sector, economic reforms have strengthened alliances between the state and business, as governments enhanced the attractiveness of investment in health and welfare provision to private interests (Holden 2005, Pollock 2004, Barnett and Brown 2004, Qadeer and Reddy 2006, Rajan 2006, Lethbridge 2005, Jasso-Aguilar et al. 2005). In India, subsidies and significant concessions (e.g. in tax rates, utilities bills, land acquisition, import duties on medical equipments and loans) have been granted to the corporate sector, reflecting the growing consensus and bias towards this corporate provision (Lefebvre in press, Qadeer and Reddy 2006, Yamey 2001, Baru 1998). For example, the national government offered 100 per cent equity to foreign hospital companies to invest in India (Baru 1998:38). Although concessions were granted on the condition that 40 percent of outpatient and 25 per cent of inpatient beds are reserved for poor patients, observers note corporate hospitals have not fulfilled these social responsibilities (Qadeer and Reddy 2006, Lefebrve forthcoming).[25]

[23] The world average of health care spending by the state is 3.2 per cent of GDP (Howard 2005) Available at http://centurionhealthcorp.blogspot.com/2005/11/health-care-india-south-asia.html (Accessed 15th February 2009).

[24] Public-private partnerships in the government sector in Kerala are further discussed in Chapter 4.

[25] For example, the Sixty Minutes programme on Medical Tourism in India (2006) examines the failure of the corporate sector to meet the agreed responsibility to provide services for the poor. The issue was not raised by any respondents in Kerala. Thus I am not aware of any requirement for private hospitals to treat quotas of poor patients. This probably reflects the higher standards of care available in the government sector. However differential rates for scans and investigations for Below Poverty Line (BPL) patients are advertised on price menus of the local corporate hospital.

The transformation of health care is an important aspect of the globalisation of territories (Harvey 1990, Urry 2002, Rajan 2006) as states open up their markets to international trade, and health care grows as one of the most important nodes of connectivity in the global economy. National territories have shifted emphasis to promote trade in health services as a result of the inclusion of health services under the World Trade Organisation's General Agreement of Trade in Services (GATS) (Pollock 2004). According to the GATS agreement, trade in health related services occurs via four modes of supply – the cross-border delivery of trade (telemedicine and e-health); consumption of health services abroad (patients travelling abroad for hospital treatment); commercial presence (establishment of health facilities in other countries) and the presence of natural persons (doctors and nurses practicing in other countries) (Drager and Fidler, WHO 2004). These four dimensions are notable characteristics shaping the architecture of the health care system in India. As newly emerging markets across Asia develop hospitals as satellites of the corporate model for health care from the United States and the visions of future health care systems are shaped by the implementation of the GATS agreement, India has become a global hub for high tech health care at 'low cost,' occupying a new niche in the emerging architecture of global trade in health services.[26]

The Indian health care market is estimated to be worth US$ 18.7 billion and as the employer of over four million people, it is the largest service sector of the economy (WHO 2008). In 2005, health expenditure accounted for 5 per cent of GDP, and strong growth is further predicted at an annual rate of 15 per cent over the next four years.[27] Although market reforms have increased the diversity of health service providers, the corporate hospital has become the most visible and important hub linking the local health care system to the global marketplace. The industry was pioneered by Dr Prathap Reddy, a cardiologist trained in the United States, who founded the first Apollo hospital in Chennai in 1983. In ensuring the success and expansion of Apollo group, Dr Reddy created vital networks and vision to build the wider industry. By regularly travelling to the United States to meet with organisation such as the Hospital Corporation of America and other key

[26] The term 'satellite' is used to emphasise the active partnerships between health corporations in the United States, such as John Hopkins Medicine International and corporate hospitals in India. Formal systems of accreditation and the movement of elite investors between the United States and India have also been important mechanisms enhancing convergence, in terms of technological capacity and the management systems used by corporate hospitals in developing countries. The role of standards and accreditation schemes in homogenising the definition of a hospital is further discussed on pages 73-74.

[27] The Investment Commission of India. Available at http://www.investmentcommission.in/health_care.htm Accessed 22nd February 2009.

Non-Resident Indian doctors, he was able to stimulate significant international interest, strengthening the growth of international hospital partnerships, expertise and finance to fund and manage new hospital projects (Lefebvre in press).

At his special request, the hospital sector was recognised as an industry by Prime Minister Rajiv Gandhi in 1986, allowing easier access to credit from public financial institutions (*ibid*). During the late 1980s and early 1990s chains of corporate hospitals were established in central districts of major metropolitan cities by other leading players such as Escorts, Wockhardt and Fortis. These groups set up joint partnerships with other hospitals from Singapore, Malaysia and the United States to rapidly expand new facilities (Ravimohan 2005). The sector is still led by the Apollo group, which currently owns 43 hospitals in India and overseas.[28] In 1999, the group opened its first hospital in Dubai, with further expansion progressing in neighbouring countries, thereby significantly enhancing India's status as a regional medical centre and Apollo hospitals as a leading international player.[29]

Management consultancy firms have also played a vital role in generating wider interest in the Indian health care industry, collating data and projecting ambitious growth figures, to attract venture capitalists from the UK and US to invest in the Indian health care market (e.g. Price Waterhouse Coopers 2007, CII-McKinsey 2002). Inter-sectoral linkages have developed as US and UK-led hedge funds, which have out-sourced financial services to India, invest in new corporate hospitals.[30] International financiers and management consultancy firms have also been important in raising the global ambitions of the industry, encouraging the expansion into medical tourism, promoting international standards and exploiting the potential to globalise medical diagnosis and treatment. According to industry reports, the corporate sector has a relatively small penetration, covering only 7 per cent of the local health care market, highlighting the possibilities for rapid expansion (CII-McKinsey 2002). Market intelligence reports have therefore been

[28] Available at http://www.apollohospitals.com/chennai_overview.asp. Accessed 30th January 2009.
[29] The group plans to invest roughly US$ 4 billion to build 15 new hospitals in Malaysia, Nepal, and Sri Lanka (Chanda 2002), while also tendering to run the expansion of diagnostic services in the United Kingdom on behalf of the NHS. Bio-medicine website Available at http://www.bio-medicine.org/medicine-news/Apollo-Hospitals-Short-listed-to-Provide-Diagnostics-in-the-UK-5783-1/. Accessed 10th May 2009.
[30] Hedge fund manager in London, personal communication.

important to increase hype surrounding the sector, producing optimistic estimates for its growth in order to attract further finance and investment.[31]

Health care is the latest service being out-sourced to India, although the industry is still in its infancy (Biao 2006, Rajan 2006), and constitutes a relatively small percentage of sectoral income, compared to the growth of private hospitals serving the local population. Medical transcription is an expanding area, as the dictated case notes of consultants in the United States are sent electronically to be typed-up on computers by specially trained workers (Biao 2006).[32] Advances in telecommunication systems have facilitated the outsourcing of radio-diagnosis as the CT and MRI scans of American and British patients are reported on by radiologists working in Bangalore, providing services twenty-four-seven (Levy and Hu 2006). However, what is more significant is the ways in which information and communication technologies are being used in the local health care system to remove restrictions of time, space and place in health care delivery (Urry 2002, Harvey 1990).

Telemedicine has become the latest buzz as a solution to redress inequalities of access between rural and urban health care centres, currently being piloted by national and state governments, international NGOs, and private hospitals across India (see also Price Waterhouse Coopers 2007). Through satellite technologies mobile diagnostic vans are being used to perform blood biochemistry, x-ray, ECG, tele-dermatology, tele-radiology, tele-dermatology, tele-endoscopies and tele-psychiatry.[33] Vans linked by satellites can travel to rural areas to conduct virtual consultations with specialist doctors and send the results of any test to the remote doctor in a corporate hospital, thus bypassing the seeming necessity of face-to-face interactions in medical diagnosis and decision-making.

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[31] For example, Price Waterhouse Coopers (2007) produce generous estimates of the size of the Indian middle class and expected increases to 62.95 per cent by 2010 (cf approx 25 per cent Fernandes 2006:xiv), in order to emphasise the unmet needs for tertiary care hospitals in the treatment of lifestyle diseases and high demand for services in neurology, cardiology, oncology and orthopaedics.

[32] The medical transcription business was estimated to be worth USD 38 million, in 2002 (Nasscom cited in Biao 2006). The industry has grown alongside IT outsourcing services in Chennai, Hyderabad and Bangalore. Several medical transcription companies have been established in Cochin, the commercial centre of Kerala. Some rural doctors in Tamil Nadu have direct relationships with individual physicians in the United States (Mark Nichter, personal communication).

[33] See you tube video: rural sick and advanced medical care. The video details the partnership between Amrita Institute in Cochin, South Kerala and Debt Relief International to use satellite vans in order to connect the rural sick to advanced hospital care. http://www.youtube.com/watch?v=jYfLlX06jIo&eurl=http://medtechiq.ning.com/video/2140535:Video:2425

A further important dimension to the globalisation of trade is the exportation and return migration of doctors and nurses from India, which has remained as an important node of connectivity since the British first opened up medical education to Indian doctors (Jeffery 1979, Madan 1980, Rajasekharan Nair 2001). Media reports emphasise for the first time in the history of the medical profession, Indian doctors are returning home, seeing India as the land of professional opportunities, attracted by the possibilities to set up units in corporate hospitals (Sachdeva 2007, Mascarenhas 2007, Kanth 2007). Returning doctors have been seen as an important node to raise the capabilities of the industry and facilitate technology transfer (Kapur 2001, Khadria 2002). Rather than returning after retirement, mobility and circulation have replaced migration, so that health care professionals can move between host country and home (Wickramasekara, ILO 2007).

The culmination of these processes has led to India's strengthening position in the medical tourism industry, as patients migrate from the developed world to avail of cheaper health services or consumer surgeries in newly emerging health care markets - in Asia, India, Malaysia, Singapore, Thailand (Connell 2006, De Arellano 2007) and South Korea.[34] Although India has previously acted as an important regional medical centre, what is new is the hype and concerted effort to transform previous patterns of patient migration into an industry. Critical accounts of medical tourism have argued the industry has fuelled the production of a technology-intensive industry in local health care markets and further accelerated the brain drain from the public to the private sector (De Arellano 2007). In India, medical tourism has not affected the employment of doctors between the public and private sectors, and expansion is the culmination of more than twenty years of investment in human and technological capacity, now being harnessed to realise the potential for India to compete in the international market for migrant patients. However the idea of medical tourism has been important in further intensifying investment in technology, creating a more uniform definition of the hospital, as larger corporate hospitals are built around the latest information and communication technologies, and smaller super-speciality hospitals seek accreditation from the International Standards Organisation (ISO), the Joint Commission International (JCI) and the National Accreditation Board for Hospitals and Health Care (NABH), as a prerequisite to compete for medical tourists.

[34] Laurent Pourdié, personal communication.

Standards organisations have set basic requirements for infrastructure, management systems and technologies – for example, in the introduction of electronic medical records, or the necessity of a heart and lung machine as a back-up during heart surgery. This is one way in which standards in health care are being driven by international norms developed in the United States, without consideration of the appropriateness and cost-effectiveness of measures to tangibly improve medical and patient care. Although the industry is surrounded by a considerable amount of hype, it is ideologically significant as testimony to the achievements of the health sector. However the focus on medical tourism appears slightly misplaced, given limited revenues and the seemingly unlimited demands of local patients, which keep most super-speciality hospitals running at full occupancy rates.[35]

While detractors question whether a country like India can afford to follow international standards in health care, the most important difference between India and the developed world, is the fact that most developed countries have established a collective payment system, which mitigates against the potentially unexpected and devastating financial costs associated with serious illness. Compared to a global average of 23 per cent, estimates for out-of-pocket expenditure in South Asia range between 73.4 per cent (Poullier et al. 2002) to 87 percent (World Bank 2001). The issue is therefore not merely one of the appropriateness of international standards for the Indian health system, but the fact that in the majority of cases, the cost of health care falls on the families of sick individuals. The following section examines how economic reforms have shaped regional patterns of development.

Regionalism and the Rise of the Knowledge Economy in India

Since India embarked on policies of economic liberalisation, national figures for growth have been impressive, averaging 6 per cent (1991-2005), compared to 4.9 per cent (1976-1990) (Rana and Dowling 2009). However national figures do not reflect the unevenness of development patterns, as metropolitan areas and

[35] Economists predict that over the next five years medical tourism will become the second major driver of the Indian economy after Information Technology, to become a $2.3 billion industry by 2012 (CII-McKinsey report cited in Puri and Kapadia 2006). However, the industry has a considerable way to go before meeting these ambitious expectations. In 2004, actual figures for medical tourism were more modest, with a total net worth of $333 million (Chacko 2005). Given the industry's small base, growth has been considerable at 30 per cent per annum (Shardul and Sapna 2005, cited in Chacko 2005:124), although actual patient numbers remain small. In 2002, the estimated number of medical tourists was 150,000, almost half of whom came from the Middle East (Chacko 2005).

the southern states of Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu emerge as the principle areas to have benefitted from the development of knowledge industries (Rajan 2006, Cross 2007, Nisbett 2004, Mazzarella 2003, Biao 2006, Fuller and Narasimhan 2007, 2008). Reforms have increased the importance of regional development trajectories, as individual states compete to attract industries to special economic zones and business parks (Rajan 2006, Biao 2006, Cross 2007). For example in Andrah Pradesh, the Chief Minister Chandrababu Naidu has promoted the idea of each state as a corporate entity (Rajan 2006:87), to attract foreign investment and encourage economic growth.

Health care differs from other knowledge industries as development has been more evenly spread across more affluent areas of India. Although large corporate hospitals have been concentrated in major metropolitan areas, where brands such as Apollo, Escort and Fortis dominate the market, in different states (e.g. Andrah Pradesh, Kerala, Tamil Nadu and Karnataka), inward investment has come from local entrepreneurs, who have diversified from other industries into health care (Baru 1998).[36] Medical tourism has been significant in promoting regional competition in health service provision. In Kerala, this has occurred as private hospitals work to develop local accreditation systems and to market the brand identity of the regional industry, in partnership with the state tourism board. Regionalism may also become more important if internal competition for patients develops within India, currently being discussed as another aspect of medical tourism in Kerala. Although the idea of internal competition is at an embryonic stage, as different strategists meet to discuss and define the boundaries and markets worthwhile pursuing in medical tourism, this is possible given the cost of medical care in metropolitan areas is often three or four times the cost of treatment in Kerala. For doctors in Kerala, the comparison is used to reinforce the idea of medical care as cheap, relative to other parts of India and the developed world.

As economic reforms stimulate the expansion of private health care across different regions in the developing world, there is a need to study health systems

[36] In most southern states the expansion of private health care and medical education has been stimulated by economic reforms. However in Karnataka the private sector has a longer history of reputed institutions in the private sector – such as Kasturba Medical College (KMC), Manipal, which provides both medical education and treatment. The earlier development of large private institutions has occurred in Karnataka because of the higher reservation quotas, which has restricted the dominance of forward caste groups in medical education in government medical colleges. This has produced a different model of medical education, linking teaching to the provision of advanced care. Similarly local corporate hospitals in Kerala have expanded into medical education (see Chapter 5).

as engines of economic growth and development. This is particularly apparent from the case study of Kerala, as a region like the Philippines (Ball 2004, Brush and Sochalski 2007), where the production of nurses has become a major export industry (George 2005b, Percot 2006, Percot and Rajan 2007, Thomas 2008). Health sector development also differs from other parts of India, as regional connections between Kerala and the Gulf, finances medical education, investment in health service provision, ideas of modern health care, and as a potential market for medical tourists. These linkages have been important to integrate the local health system into the regional and global economy, as the work, consumption and salary aspirations of migrant and non-migrant families increase. The following section draws comparisons between the growth of other knowledge industries, and the relationship between health care and the middle classes.[37]

The Middle Classes and the Knowledge Industries

Since India intensified its programmes of economic reforms in the early 1990s, out-sourcing has been central to economic growth in information technology, biotechnologies and finance (Fuller and Narasimhan 2007, Biao 2006, Rajan 2006). This has raised ambitions and optimism, the information revolution is creating a flat new world. Accounts of globalisation by authors such as Friedman (2006) are consumed with enthusiasm in management schools, as more opportunities than ever open up to young people from India. With an educated, technologically savvy, English speaking population, the young Indian middle classes have benefited from employment opportunities from the outsourcing of information and communication services (Nisbett 2004, Biao 2006, Fuller and Narasimhan 2007, 2008), giving rise for some to claim that India is leading the knowledge and information revolution (Kobayashi-Hillary 2004:2).[13]

Increased opportunities in the local and global economy have sparked ambitions among the aspirant middle classes (Fernandes 2006, Nisbett 2004, Menon and Nigham 2007, Ganguly-Scrase and Scrase 2009), provoking an exponential increase in investment in human capital - in English, engineering, business degrees, and technical knowledge of the Internet and communications systems, as essential skills for social mobility into the knowledge economy (Nisbett 2004, Fernandes 2006, Upadhya 2007, Upadhya and Vasavi 2007, Biao 2006). Despite strong figures for growth economic at a national level, many remain cautious that in comparison to India's achievements, formal sector employment opportunities

[37] The importance of analysing regional patterns of health sector development are further discussed in Chapter 4.

are stagnant compared to the growing numbers of educated young people entering the workforce (Nisbett 2004, Upadhya 2007, Upadhya and Vasavi 2007, Jeffrey et al. 2008, Gorringe et al. 2009). Studies have examined the enduring advantages of older elites within India's new knowledge industries (Nisbett 2004, Upadhya 2007, Upadhya and Vasavi 2007, Biao 2006, Fuller and Narasimhan 2006, 2007, 2008). Although social mobility into the new private sector industries has been more limited than expectations, other opportunities for white-collar, technically skilled employment have emerged alongside new opportunities for accumulation from migration, business and agriculture (Mazzarella 2005, Osella and Osella 2009).

Although opportunities have opened up more than ever in different areas of the economy, education has been one of the most important growth sectors, as many attempt to improve social status and employment opportunities through degrees (Jeffrey et al. 2008, Upadhya 2007, Nisbett 2004, Upadhya and Vasavi 2007, Osella and Osella 2000, 2009). Although post-graduate and professional qualifications are important entry requirements to access local and international job opportunities, degrees are also highly valued to achieve social mobility through marriage (George 2005b, Biao 2006, Percot and Rajan 2007). Across South India, this has led to the rapid expansion of higher education colleges, as medicine and engineering become the most sought after qualifications. In Kerala, up to 90 per cent of students are studying for entrance exams in the science stream in the hope of gaining a seat at university to study either medicine or engineering. For the middle classes, medicine and engineering qualifications have a high symbolic value, further reinforced through hierarchies of esteem in marriage and education.

Medicine and engineering (used as short-hand for access to employment in IT) are viewed similarly by the middle classes as aspirational qualifications, providing the seemingly best opportunities for social mobility. Medicine is still more prestigious, due to the limited number of places, the humanitarian aspects of medical work, and the respect generally given to doctors as authority figures in local communities (Chapter 3). However there are significant differences between medicine and engineering, although these are not widely appreciated by aspirant middle class families. The most notable difference is the age of engineers working in IT, compared to the experience, age range and length of time required to establish a successful career in medicine. While the average worker in Information Technology is 27 (Fuller and Narasimhan 2007), the age of

practicing doctors ranges from 23 to over 80 years. Although engineering graduates can begin work after a three-year degree course and a one-year master's degree, it takes many years to establish a successful career in medicine. Most doctors have to wait until they are in their forties before they have gained the necessary qualifications, reputation and experience to earn a reasonable or good income from medicine.

A further important difference between doctors and engineers is technological competency. While engineers work with computers, information and telecommunications systems during their degree courses, doctors have only recently become more familiar with technologies during post-graduate qualifications and the diffusion of medical technologies in the marketplace. In the early stages of their education, technologies are not particularly important to medical students. Although most young doctors use mobile phones, have some familiarity with the Internet, and a few own i-pods, young doctors are immersed in a world of books and exams, dissecting bodies to understand anatomy, physiology, learning about diseases, developing clinical skills to assist diagnosis, and to see themselves as doctors (Sinclair 1997). Doctors are therefore relatively less technologically oriented compared to other employees of the knowledge industries, although abilities vary considerably according to age, as younger generations and specialists become more competent in using technologies.

Although the working lives and consumption habits of the new middle classes have been studied extensively in the liberalising economies of South and South East Asia (e.g. Robison and Goodman 1996, Pinches 1999, Beng-Huat 2000, Fernandes 2006, Leichty 2003, Kemper 2001, Mazzarella 2003, Van Wessel 2001, Ganguly-Scrase and Scrase 2009, Osella and Osella 2000), as consumers and employees in Asia's new high tech hospitals and beyond, embedded accounts of health sector transition has been a relatively neglected aspect of changing lifeworlds of people in Asia.[38] Although many studies have examined medical doctors as part of the Indian diaspora (Bowers and Rosenheim 1971, Mejia et al. 1980, Poros 2001, Robinson and Carey 2000, Raghuram and Kofman 2002, Adkoli

[38] On health consumerism and commercialisation refer to Gammeltoft and Nguyen (2007) on the commodification of foetal scanning in Hanoi, Vietnam; Pai (2000) and Mishra and Ramanathan (2002) on caesarean section rates in India; refer to Sui and Sleeboom-Faulkner (2007) on commercialisation of genetic testing in China; on prenatal testing in Sri Lanka see Simpson (2007); genetic screening for foetuses in India see Gupta (2007); see Ecks (2005) on pharmaceuticals and depression in India; women's reproductive experiences in India see Van Hollen (2003); hospital births for the middle classes (Donner 2003, 2004); and Jeffery and Jeffery (2008) on the gap between consumer ideology and the grounded realities of obstetric care in Uttar Pradesh; See Smith (1993) on market reforms and the rise of lifestyle diseases amongst middle class consumers in China.

2006, Connell 2008), literature on the medical profession as residents of developing countries and as political, cultural and economic elites is relatively sparse (Jeffery 1977, Cohen 1981, Madan 1980, Bala 1991, Quah 1989, Iliffe 1998, Evers and Silcock 1977, Adams 1998, Mahroof 1998, Baru 2005).

In India, a considerable literature has examined changes to the new middle classes, by exploring the experiences of employees in the Information Technology (IT) and out-sourcing industries (Nisbett 2004, Upadhya 2007, Upadhya and Vasavi 2007, Biao 2006, McMillin 2006, Fuller and Narasimhan 2006, 2007, 2008 Dasgupta 2008). While these industries have been significant in raising wider ambitions for social mobility and transforming the identities of young people, companies are generally concentrated in metropolitan areas or specialist business parks. However the health care industry has expanded through the provision of the most essential and intimate service to the local population, across major cities and smaller towns. Therefore as local service providers, the social backgrounds, values, experiences and career trajectories of doctors, nurses and other employees in medical-related fields are particularly important to understand the shifting political, social and economic landscape of India, as new opportunities for employment and consumption develop alongside new articulations of exclusion and inequality.

As employment and investment opportunities expand in the private sector, it would be easy to assume the medical profession have been some of the most important beneficiaries of economic reforms. However, the 'medical profession' refers to a highly stratified group of men and women of different ages and experiences. As a hierarchical and highly specialised profession, assertions regarding 'the medical profession' must be tempered by considering the diverse social backgrounds, life-stages, career trajectories, skills base and social contexts in which modern medicine is practiced by doctors, domestically and overseas, in rural and urban areas, in the state and the private sectors. Medical ethics and worldviews can therefore not be divorced from understandings the diverse social contexts in which medicine is practiced, alongside collective experiences and opinions.

Conclusion

As regional and international economic policies integrate health systems into the global economy, a new moral vision of growth oriented development is being articulated. The commitment to international standards, medical tourism and the

use of the latest information technologies is evidence of a new form of corporate nationalism, reinventing the local and global imagination of India, as a country which can and should provide the highest international standards in technologies and medical expertise. Although health sector development was previously shaped by the visions of elites, restrictions on the importation of technologies and the wider isolation of India from the global economy meant the cost of health service provision was oriented towards the financial situation of local patients, rather than the financial interests of investors, as owners of expensive capital inputs. Furthermore, in contrast to accounts which assume health sector development is legitimated by the middle classes as consumer-stakeholders (Qadeer 2000), private aspirations to work as doctors and nurses have been an important factor driving development, increasing demand for education in medical related fields and the supply of health care professionals. As the globalisation of trade in health services, technologies and for profit orientations become the overarching framework for health sector development, the next chapter examines the methods used to study the lifeworlds of different stakeholders in the health care economy.

Chapter 2:
Researching the Medical Marketplace

Modern health systems have become critical site for understandings the contradictory and confusing implications of globalisation, as the provision of a vital local service is transformed by global technologies, international standards, entrepreneurship, consumerism and the aspirations of the middle classes. This raises new challenges to develop appropriate fieldwork methods to trace connections between different places, peoples and stakeholders, to understand the social imaginaries, aspirations, behaviours and values produced through contemporary technoscientific practices. This chapter provides insights into the health system, by examining the ways in which I navigated access to the field; the methods used to capture the diversity of institutions and stakeholders caught up in transformations, and the ways I have approached data analysis and writing since leaving the field.

Drawing on the works of Fisher (1991) and Marcus (1998), Good (2001:395) argues social and cultural studies of biomedicine and biotechnology lend themselves to an examination of the articulation of "multiple regimes of truth." As Fisher (1991:526) notes, while it is important to acknowledge and research 'cultural pasts', and 'cultural differences' in technoscientific practices, it is also important to understand how informant's world views are structured in relation to the world system and 'transnational cultural processes.' In order to represent health sector development, it is necessary to capture the multiple regimes of truth produced through different technoscientific practices – as hospitals evolve over time and distinguish themselves from competitors; as doctors face competing demands within a highly stratified profession; and as a diverse patient population engages with 'super-speciality' medicine. For an anthropologist studying the health care market, the task is to document the practices and social imaginaries of medicine produced across the different sites in which medicine is taught, practiced, organised and consumed, and the relationship between the local and the global world of the technologies, business and clinical standards (Good 2001:395). This requires multi-sited and comparative ethnographic research to understand the relationship between the system and divergent lifeworlds (Marcus 1998:80). Thus a commitment to multi-sited research makes it possible for the researcher to construct aspects of the system itself through the associations and connections revealed through observations across different sites (Marcus 1998:80).

The study of health systems has become more complex as a gulf emerges between the immutable world of suffering, pain and illness in the clinic, and the virtual visions of 'luxury', standards, competition, and marketing, which fashion health care as a desirable product, more important in a context where consumers have limited knowledge to judge actual differences in the standards of care provided. Thus the research and writing has taken into account the relationship between people and objects, to understand the performative dimensions of higher standards, the public profile of doctors and institutions and actual differences in medical practice across different institutions and clinical contexts. Attention is paid to the discursive and material production of health care as a commodity, and the divergences between discourses and everyday clinical interactions across different field sites. Through participation observation in the wider social life of the health system, data collection traced the diverse moral visions of health care promoted by hospitals, the media, entrepreneurs, doctors, the middle classes; and the knowledge, behaviours, values and attitudes of different doctors and patients.

Entering the field

As Savage (2000:1400) stresses, there is no standard definition of ethnographic research, but most would agree it involves prolonged fieldwork in small scale research, carried out in everyday settings, using several methods, which evolve in design throughout the study, and which focus on the meaning of individuals action and explanations for them rather than quantification. As a dynamic methodology, the focus for ethnographic research can change in the light of new circumstances - in this thesis from self-medication to super-speciality medicine, as knowledge unfolded through initial observations and conversations in the field. This reflects the ways in which ethnographic fieldwork progresses through a continual process of learning, adapting, making new contacts, to better understand the 'common sense' logics of everyday life (Herzfeld 2001:1). In this sense fieldwork methods evolved to capture the social processes and practices shaping health sector development, the ways in which hospitals are meaningful in people's lives and the relationship between doctors and patients.

Malinowski (1935) describes fieldwork not a passive registering of facts, but an analytical process involving direct observation and where possible, participation in the lives of the people whose economy is the object of investigation (Gregory and Altman 1989:1). Participation in the field in order to meet basic requirements both materially and intellectually first helped formulate initial insights into the

multiple ways in which the health system is meaningful in the lives of different people. Arriving in Trivandrum, Southern Kerala with few social connections through which to integrate myself into social life or connections to possible language teachers, I knocked on the door of two households in my local neighbourhood, both displaying signboards outside, advertising English and Malayalam lessons. Signboards are a common feature of middle class residential areas, as professional degree holders and persons running small businesses from home, erect plaques outside their houses to indicate professional status or to advertise services. The example illustrates the importance of performance and communicative strategies to the local economy of practices, as actors provide signals and information to the on looking world, ranging in scale from small signboards to large buildings, impressive technologies or advertising hoardings to attract attention.

The positive responses from these two households provided my initial entry points into the world of health, medicine and the knowledge economy. The first household is a small English language institute – a room on the side of the house, where a woman in her forties provides English lessons to college students every morning, and tuition classes for young children after school. She suggests I have lessons with her mother. Several minutes later *Thankamma* slowly makes her way into the room to greet me.[39] She is a retired rural development worker, widowed following the death of her husband from a heart attack several years before. She speaks no English, and despite initial labours to communicate, we quickly bond. Our lessons become a welcome distraction from a life of chronic pain - of blood pressure, headaches, fevers and poorly controlled diabetes, which frequently result in debilitating and painful sores and infections on her legs and feet. She occasionally walks to the nearby temple several hundred metres away, but her movement is laboured, and she rarely leaves the house. She needs money for a hernia operation and for the removal of two cataracts, which have left her almost blind, costing Rs 40,000 ($800).[40] Aches, pains and chronic morbidity engulf her lifeworld. Her son, a homeo doctor, medicates her conditions with small white homeopathic pills – the most economical form of treatment preferred for the elderly and children. She quickly accepts me as her daughter and our lessons become a source of mutual enjoyment. *Thankamma* has since passed on.

[39] The names of all persons in the thesis have been changed.
[40] The thesis uses a dollar: rupee exchange rate of $1 to Rs 50.

In the evenings, I learn Malayalam in a beauty salon, where *Shoba* and her only daughter *Parvathi* socialise with other women, who come for herbal facials, manicures, pedicures, eyebrow treatments, weddings make-up, and everyday beauty care. Here I learn about fashion, jewellery, gold, cinema, food and popular music, and the lifeworld of a 'plus two' science student, now studying for a BSc degree in nursing.[41] Parvathi's *ammumma* (grandmother) also lives in the house, sitting silently in a chair in the corner of the living room, isolated from social interactions by poor eyesight and hearing, BP, pain and limited mobility. Her otherwise sedentary life is broken in the evenings, when she gets up from her seat to perform *puja* (prayer) in the small alcove, three metres from her chair. She looks her brightest the day after she suffered a heart murmur. When I arrive, she is smiling, dressed in a sari, and rejuvenated by her experiences of going outside to visit the hospital. Several months later she has a full attack, which leaves her in ICU in a private hospital for almost one week. Her relatives camp outside for the duration, waiting anxiously for news. Her family do not spend the money on the coronary stents, suggested by the doctors, which would cost Rs 120,000 ($3,000). After five days in the cardiac ICU she dies, leaving her family of fairly modest means, a bill of over Rs 70,000 ($1,450).

Studying health systems brings the fundamental issues of life, living and death into clear view that I did not have to find the 'field' within the field. These examples illustrate the differences between the public and private world of medicine and the economy, the intersections between these spheres and the ways in which different actors are multiple stakeholders in the health system. Both reinforce the devastating financial impact of private medicine, most acute in the treatment of sudden life-threatening illnesses or accidents, when scientific medicine raises the greatest hope of saving and sustaining life, but when medicine becomes most costly and the outcomes most uncertain. Being admitted to hospitals under these circumstances creates relationships of considerable financial dependency for unknown periods of time, sometimes ended when no more money is available, and patients are transferred from private hospitals to the government sector, as the health care provider of last resort.

In order to capture the relationship between health systems and people's lives, it is useful to explore the different forms of mobility produced in and around the health system. For some housewives and the elderly, who spend most of their

[41] 'Plus two' is the final year of secondary schooling, when many students study for entrance exams in medicine and/or engineering before entering university education.

lives at home, participation in 'the economy' beyond the household is limited, and seeking health care is a reason for mobility, to get dressed up, to receive care and attention from relatives and the doctor. Secondly, mobility refers to the means by which families and individuals try to meet their desires to achieve a better life, through multiple strategies of education, work, migration, consumption and marriage (Osella and Osella 1999, 2000). Here the ideal outcome of mobility strategies is vertical, although achieving social mobility often requires travel – most commonly migration to the Arabian Gulf countries, creating continual flows of movement back and forth between Kerala and the Gulf, for work, leave, visas, visits to relatives and for the consumption of health care.

As Sheller and Urry (2006:209) note the mobilities paradigm emphasises that all places are tied into at least thin networks of connections that stretch beyond each such place and mean that nowhere can be an `island.' In health care, it is important to trace the connections linking Kerala regionally through the migration circuits of nurses, doctors, patients, workers, businessmen moving backward and forward from the Gulf; internationally through the importation of technologies, knowledge, standards and doctors; and locally, as regional health centres link urban and rural areas. Movement has thus become a way of life inside and outside the health sector, as people try to build a better life, a moral vision for the future, and attempt to balance ideas of quality and affordability in health care.

Mobility refers to the ways in which people move in and around the health care system – as doctors treat patients in different hospitals and in private practice from home; of patients moving internationally, from rural to urban areas, continually circulating around the health care system, and shopping between different institutions. Mobility in this sense is central in maintaining the everyday demand and supply of health care, as hierarchies, knowledge and difference create a dynamic health system in a perpetual state of activity. Mobility also captures the dynamism of hospitals and clinics, continually transforming and upgrading, adapting to changing market circumstances, as busy-ness becomes imperative to maintain competitive advantage over the shorter and longer-term.[42]

[42] The problem of researching mobilities is discussed in the analysis of the fieldwork methods.

Selection of the field site

During the first six months of language learning, I travelled across Kerala, to gain a feel for possible field sites, before finally selecting a city in Northern Kerala, where I conducted 18 months of fieldwork between July 2005 – January 2007. By moving from southern to northern Kerala, I was able to escape the edges of the tourist trail in the south, which taint the images of inappropriately dressed western women. Furthermore this area has been considerably less researched relative to southern and central Kerala. As I travelled north by bus, I observed the changing rural landscape reflecting the local impact of Gulf migration, where former villages have rapidly grown into towns with high streets, lined with modern glass frontaged shops selling the latest fashions, domestic gadgets, gold, hotels (restaurants), private hospitals and clinics. In rural areas the fortunes of manual labourers have been transformed in one generation from meagre material existences to newfound wealth, spent on the construction of large houses, marriages, food and visits to 'luxury' hospitals (Osella and Osella 1999, 2000). Hospitals and clinics have been transformed alongside other areas of the consumer economy, as shops and petty service providers, upgrade establishments with modern interiors, furnishings, frontages, while also raising charges for service provision.

On these trips, I accessed the public health system visiting the district medical officer, primary health centres and district hospitals, in order to understand basic health problems and the nature of service provision in the government sector. Many of the government primary and community health centres I visited were empty, due to a lack of resources and patient preferences to seek treatment in the private sector or from higher government centres (Kunhikannan and Aravindan 2000, Osella and Osella 2000, Dilip 2002, Gangadharan 2005). While medical colleges and some district hospitals are well supplied with doctors, medicines and technologies, outside popular institutions dense concentrations of diagnostic laboratories and pharmacies have also been established. In a consumer driven market resources in both the government and private sector can become concentrated in particular sites, reflecting the number of sick attending particular institutions and the amount of money consumers have to spend on health related products and services.

Across the private and public sector the institution's resources, the availability of doctors, technologies and medicines, generally affect consumer choices and utilisation patterns (Kamat 1995). However in the poorest areas, private

hospitals are relatively empty but well equipped, reflecting the limited purchasing power of patients, while government institutions are over-burdened with patients, despite the limited availability of supplies. For example in one of the poorest areas, I visited a government maternity hospital filled with over two hundred patients and by-standers, despite the institution's capacity to treat only forty women. Here two duty nurses managed the whole unit, and several incubators were some of the only medical resources available. Although markets are often defended because they promote the efficient allocation of resources, as the price mechanism adjusts in order to equalise demand and supply (Johnson 1995), market failure results when there are inequalities in purchasing power, as the poor herd into inadequately equipped institutions, while private institutions remain under-utilised.

My entry point into the health system via the government sector also partly reflected my initial reticence to independently approach private sector providers, and expectations private hospitals may be more secretive compared to expectations of transparency in government institutions, although the opposite proved true. Although I applied for permission to conduct observation in the government sector when I arrived in the fieldwork site, due to a protracted bureaucratic procedure, permission was only finally granted to conduct observation, two weeks before my scheduled departure.[43] I made many trips to chase the paper trail in Trivandrum, using the opportunity to visit different private hospitals in Cochin, where some of the most prestigious private hospitals are expanding infrastructure to develop medical tourism, and to conduct interviews in institutions where new technologies have been introduced – e.g. the 64-slice cardiac CT scanner. Throughout fieldwork I kept abreast of the latest news in the health sector, keeping cuttings of health related news in the English and Malayalam newspapers (read and translated by my research assistant), attended inaugurations of new technologies, two conferences related to medical tourism, and interviewed key investors transforming health service provision.

Given the achievements of the sector, the managers and owners of many hospitals were willing to be interviewed and to arrange a tour around the institution. In total I was shown around approximately thirty different institutions

[43] Although everyone I spoke to in the government sector was open to my request, protocols were not in place to grant permission, and no individual was willing to take responsibility, so the bureaucratic procedure grew. This took many trips to Trivandrum to chase the paper trail. In the end I spent several days in the government medical college at the end of fieldwork, although I was able to interview doctors and medical students working in the institution throughout the fieldwork period.

across the private and public sectors, gathering basic data on the background of the institution, the services provided, recent changes to the organisation of institutions, the types of patients and any marketing activities (See appendix 1). My trips extended to other neighbouring districts, visiting hospitals and medical colleges to understand the flows and connections between different regional health centres. New 'luxury' hospitals have come up in rural areas benefitting from remittances from Gulf migration and larger cities, and are generally busy with patients, bystanders and visitors moving around the institution, between different departments for tests and scans, or sitting in long queues outside the doctor's out-patient clinic. As Haripriya Narasimhan, working on health amongst marginalised women in neighbouring Tamil Nadu astutely remarked, in rural areas, 'people now judge how developed the place is by whether it has got a CT scanner or their distance from a heart by-pass centre.'[44] High tech medicine has become an important sign of progress across South India as modern ideas of technology, super-specialisation, 'luxury', and the incidence of chronic morbidity and affluence of different areas increases.[45]

While researching possible field sites, my trail leads me to a small town in a rural area transformed by Gulf migration, now locally known as 'hospital city', where three super-speciality hospitals and a private medical college have flourished in the last decade. Doctors from different parts of Kerala have re-located to this area, to meet high levels of demand for services. Although the example was novel, I decided to conduct my research in a more conventional setting, in order to capture trends with greater resonance of transformations occurring in other parts of India. The city acts as a tertiary referral centre for four neighbouring districts, where health care is only one part of the burgeoning consumer economy, although the industry is one of the largest employers in the area. Doctors and hospitals rely on the custom of Gulf migrants and their families – predominantly lower-middle and working class Muslims, who more than any other group prioritise spending on health care.

Settling in the Fieldsite

While travelling across different regions by bus, I meet *Rukkiya* teacher, who is setting off to visit her female relative, who has been admitted to a private hospital in a small neighbouring town. She invites me to join her - we sit in the

[44] Personal communication.

[45] From casual observations on trips to southern and northern Karnataka, outside health care is relatively less well developed outside Bangalore, and even in the second city Mysore, super-speciality medicine is less well developed compared to Kerala and Tamil Nadu.

room eating snacks and chatting, before she decides to take me to see the hospital superintendent. We meet again the next day, when her relative is discharged, advised to return several weeks later nearer the time of delivery. We stay in touch and several months later I move into her house as a paying guest. Her house is set in a mixed middle class neighbourhood, and is the base from which I travel everyday to hospitals and clinics in the city and beyond.[46] With the exception of several poor housing colonies, rich and poor live side by side throughout many areas of the city, although elites tend to socialise less in the local community. *Rukkiya* uses the opportunity to take me to visit friends, to go to exhibitions, concerts, events, outside her job as a part-time teacher in a local government school, for which she receives a salary of Rs 3,000 ($60) per month.[47] Like many other women, visiting hospitals and relatives is an important reason for mobility.

She does not speak English and works with me to continually improve my Malayalam, sitting with me each evening to study and learn anything I need to know about the health system, often using articles from health magazines for study purposes. Although I developed relative fluency in speaking and listening, my ability to read and comprehend written texts (e.g. newspaper articles) remained limited. The difficulties in acquiring the necessary fluency to conduct research in Malayalam also influenced the organisation of fieldwork, in that I spent the first 12 months focusing on doctors and the clinic, before concentrating on the patient perspective, by which time I had acquired sufficient language skills to conduct in-depth interviews.[48] I employed a female research assistant soon after arriving in the field, who had just graduated with an MA in social work from a local college. Although I brought her to help me understand interactions between doctors and patients in the clinic, she didn't concentrate well, and wasn't able to provide any useful additional insights, while it felt like more of an imposition for doctors having two persons sitting in the out-patient room. With the permission of doctors, I recorded sessions in different clinics and made detailed notes of cases to accompany the transcripts, translated from Malayalam

[46] In contrast to the frequent segregation of residential areas by class, my neighbours ranged from the occasional poor household, to lower middle, middle and very wealthy upper middle class families. Many are living in rented accommodation in small flats or part of large houses. My neighbours came from the Christian, Muslim and Hindu communities.
[47] This is equivalent to the cost of one CT scan for the chest.
[48] Many of these interviews were recorded and translated by a research assistant.

by my research assistant.[49] The following section further elaborates the methods used to conduct multi-sited hospital ethnography across different hospitals.

From Controlling Islands to Permeable Spaces: Multi-sited Hospital Ethnography

New private hospitals have become key nodes of connectivity in the global economy, as institutions shaped by transformations to global science, business, and political economy, yet equally rooted in local communities, values and markets. Hospitals are articulations of the developmental imagination of local elites, combing ideas of global standards and local consumerist desires. Thus the hospital can no longer be viewed as an island (Cosner 1962), but as sites where global and local social, cultural, economic, technological, and ethical regimes converge to shape the architecture of institutions and the types of services provided to patients. In the context of a vibrant local health care economy, institutions can only be understood in relation to the wider market context in which they are situated, which affects the flows of patients to particular institutions.

This approach to the hospital contrasts with the work of other medical anthropologists in the developing world, who have analysed the hospital as a micro-cosm of society, where local cultural values, hierarchies, rules and conventions are reproduced inside modern institutions (Van Der Geest and Finkler 2004, Zaman 2005, Minocha 1996). These ethnographies have explored cultural variations in the organisation of hospital spaces as institutions made through social relations and practice. Researchers have examined the extent to which hospitals are highly structured, protected and exclusive/ excluding institutional spaces (Foucault 1989), reinforced through the boundaries, which have often made the hospital highly inaccessible to ethnographic enquiry (Long et al. 2008). Regulatory hurdles have also further restricted the movement of researchers inside the hospital. Thus the ways in which anthropologists have studied hospitals are not only shaped by research questions, but have reflected the ways in which the field structures boundaries, roles, access and hierarchies, and thus the lifeworlds represented in ethnographies.

As exclusive spaces, many ethnographic studies have focused on particular units within hospitals (Allen 2000, Dodier and Camus 1998, Finkler 2004), the micro-

[49] 40 hours of interactions were recorded and translated from the clinics of doctors in general medicine and cardiology. Although I have analysed this data, it has minimally been drawn upon in the thesis, regarding how doctors discuss diagnostic tests with patients. The data is 'thin' reflecting the speed of clinical interactions and the short directed style of doctor's clinical questioning.

politics of life on the ward (Cosner 1962, Minocha 1996, Zaman 2005, Van der Geest and Sarkodie 1998), and observational work on specialist teams or doctors (Katz 1998, Goodwin et al. 2003, Long et al. 2006, Lingard 2004). The organisation of hospital spaces, issues of access and the ability of researchers to move around hospital spaces, is in itself highly revealing, as an expression of core values of the institution and its relationship to wider society. Approaches have evolved considerably from initial studies, which explored the hospital from the patient perspective, as a controlling island (Goffman 1961, Cosner 1962). However most ethnographies of hospital life still emphasise the hospital as a total institution, where rules, conventions and discipline impinge upon life in the ward and patients adapt to the unfamiliar sick role and life within the institution (Goffman 1961, Cosner 1962, Minocha 1996, Zaman 2005). The relative isolation and discipline exerted over patients has even led some researchers to adopt covert research methods, by pretending to be a patient in order to more closely emanate the research ideal of participant observer (Goffman 1961, Van der Geest and Sarkodie 1998).

Marketisation, consumerism, cross-cultural variations in the relationship between hospitals and wider society are eroding the extent to which institutions operate and thus can be researched in isolation from wider society. In a planned health system, there might be one institution serving an area, and thus the extent to which hospitals compete is limited by the ideal of being able to access health services locally. However across Indians cities and smaller towns, multiple institutions have come up which compete with each other and therefore each hospital is one of a number of service providers, within an increasingly competitive marketplace.

I initially approached the medical marketplace by mapping out the different institutions providing modern medicine. In the fieldwork site, there are eight hospitals offering 'super-speciality' medicine – one government medical college; two hospitals in the voluntary sector; four other super-speciality hospitals and one corporate hospital in the private sector. There are twenty other small nursing homes offering maternity care, general surgeries and outpatient clinics, in addition to numerous speciality clinics (e.g. for ENT, dermatology, diabetes centres, eye hospitals). A unique feature of the health care market is the number of scanning facilities - 5 MRI machines, 10 CT scanners, 5 Cath laboratories,

found in hospitals and standalone scanning centres (in the case of MRI and CT).[50] Interviews were conducted with the manager and/or owner of each hospital, scanning centre, several small and large diagnostic laboratories to understand the history of the institution, the background of the owners, the types of services provided, charges, referral networks and information about patients.[51] These interviews provided basic information about the health care system, the infrastructure and expertise of different institutions, and insights into the ways in which different institutions and actors describe the hospital and the local health system.

In Kerala, rather than isolating and isolated institutions, hospitals are important institutions in civil society and social life, requiring observation inside and outside the clinic to understand the role of hospitals in the public sphere – health camps, inaugurations, cultural and health education programmes. Hospitals are permeable spaces in the extent to which doctors, patients, by-standers and visitors can move around the hospital and 'shop' between different institutions. Large volumes of patients flow to different institutions on a daily basis, where the majority of work is conducted in out-patient (OP) clinics. As residents of hospitals, few regulations govern the behaviour of patients, by-standers or visitors, and people move freely inside and outside the institution.[52] Furthermore, tertiary level hospitals are also often used as primary health centres, for the treatment of mundane illnesses. In this 'consumer-driven market', hospitals have become integral institutions in social life, that it is important to study the lack of boundaries, connections, associations, and permeation of health knowledge and health related activities within wider society, as hospitals, doctors, the media and other civil society organisations reach out to the community, thereby shaping ideas and practices, and generating regular flows of patients to institutions.[53]

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[50] Cath laboratories for the diagnosis of coronary artery disease are only found in hospitals. Refer to the list of medical terminology for further explanations of different diagnostic techniques.

[51] Refer to Appendix 1.

[52] For example, I visited one Muslim friend in a hospital, recovering from an operation to remove kidney stones. We drive to the institution in a large SUV, where I count forty people crammed into the hospital room, all enjoying tea and snacks.

[53] I examined the social imagination of hospitals produced in the media, sometimes replicated in people's lives as admission to hospitals is not restricted to seriously ill patients, nor in some instances dependent upon the expert opinion of doctors in classifying patients as sick. For example, in a local Malayalam film, '5 star hospital', the patient checks himself into the hospital at the reception desk, similar to that of a hotel, before arranging to see the doctor about a problem with his voice. In hospitals, I also came upon several cases in which administrative staff were confused when discussing cases of 'well' patients, who had been admitted without the permission of a doctor.

Participant Observation in the Health Care Market

The organisation of hospital spaces and the flows of patients and doctors around the health care system shaped the ways in which I conducted 'participant' observation. As Ellen (1984) notes the term, participant observation is oxymoronic. Only on one occasion was I able to participate as a patient when a personal health problem arose. In this instance, I used the opportunity to shop between three different hospitals (Chapter 5). Although I was able to participate in the health system through invitations to speak at inaugurations or health related events, and to observe social and clinical life, 'participant observation' was only possible in the hospital, in the extent to which I could observe medical practice and ask questions of doctors; and in the second half of fieldwork, when occasions arose to accompany people or visit friends in hospitals. It was rarely possible to combine the perspectives of doctors and patients in the clinical setting, because I had to pay attention to doctors in this context. Ideally I would have been able to ask patients their opinions about what had transpired following interactions with doctors but this was not generally possible.

The principle boundary within the hospital reflects the strong model of medical dominance in the health system. In order to gain access to hospitals and the clinic, I shadowed and flattered doctors, and therefore much of my understanding of hospital spaces was shaped by interactions with doctors in outpatient clinics, who are minimally integrated into the wider hospital (except in the corporate hospital). Although it was possible to observe how medicine is practiced, I was unable to take much interest or to gain insights into the patient lifeworld (beyond the perspective of the doctor). Appendix 2 details the different doctors I interviewed and shadowed in the course of the first year of fieldwork.

Shadowing Doctors: Participant Observation in the Health Care Market

In her study of policy settings, Marshall (1984) caricatures two types of experts, researchers are likely to encounter - the "ostriches", who obfuscate or avoid them, and the "pussycats" who are delighted to relate "secrets", provide access and generally be useful in the research. Although I encountered a few "ostriches" and some respondents in positions of power, provided candid information, most were extremely helpful in assisting my research, although I met a limited number of articulate, reflexive doctors interested in discussing the wider social contexts of medical practice. Some doctors were not that interested in talking about medicine, but were happy to discuss other aspects of their lives.

The research was presented to doctors that I wanted to know about the health care system, life as a doctor and medical practice in Kerala. Few took any interest to ask me about the research and just invited me to follow them or started talking about the health system. I was extremely fortunate and grateful that each doctor or institution I approached for interviews or observations agreed to participate in the study, and when possible I explained how the data would be used to write a PhD thesis and to publish articles without any information being attributable to particular individuals. During observations and interviews with doctors, the agenda for discussion was generally set by the particular interests of the consultant and their particular interest in taking to me, thus sometimes limiting the depth of information provided. Although I considered asserting my authority by using a printed questionnaire, it would have been difficult to arrange formal interview times with practicing doctors, as most are busy treating patients for long hours each day. Furthermore, it felt inappropriate for a relatively young foreign woman to question high status doctors in this way. However, by getting to know doctors overtime and by interacting in informal settings, I was able to develop relationships with informants who became more willing to provide valuable insights and opinions. I also revisited the field one year later and found both doctors and patients more willing to share in-depth information and opinions.

Medical students and younger doctors more commonly fell into the category of the "pussycat", still in the process of joining the medical profession, sometimes eager to divulge secrets, and to express concerns about the medical profession, the health system, ethics, and the adjustments necessary to become a doctor. Other doctors related to me because they had practiced medicine in Anglophone countries or were interested in doing so, and enjoyed talking to someone from another cultural background, as a welcome distraction from the humdrum of treating patients. Some doctors just got on with their job, stopping to make brief explanations of what they were doing. Highly skilled specialists were generally enthusiastic to talk about the development of the health care industry, the strengthening capacity of the sector, improvements to medical expertise and the business aspects of medicine. Others with a keen interest in the social aspects of medicine were the most critical of transformations, the attitudes of the medical profession and formed the most astute social commentators, who were interested in the lives, beliefs and practices of patients. Some provided polite answers to my questions and swiftly moved on. Inevitably researchers gravitate to those most willing to share insights and information, but there were sufficient numbers

of willing informants with disparate views on medicine, to provide a diversity of perspectives and to sample doctors at different stages in their careers. As practicing doctors range in age from their early twenties to over eighty years old, it was also possible to research differences in medicine over a sixty year period.

Entering the Field and the Fieldwork Process

I first entered the health care market through a mission hospital, following a brief conversation with the nun-sister superintendent.[54] The hospital was near my home and recommended by a friend, although my interest in visiting this institution reflected personal framings of health care a social good and in service to poorer sections of society. I quickly realised this hospital had become relatively marginalised from the health system as new hospitals had opened up in town. It was impossible to understand transformations to this organisation in isolation from activities elsewhere (see Chapter 5). My interests therefore gradually evolved, eventually following the majority of consumers, who are drawn to the largest new 'super-speciality' hospitals in town.

At the mission hospital, the nun sister explains the institution's enduring commitment to serve the 'common man' and berates the commercialisation of medicine. She hands me a brochure about the institution, before swiftly passing me onto speak to the chief physician, who has worked in England. I am directed to the area where is he conducting his rounds. When I arrive he is reading case notes and tending to a patient, so I meld into the sizeable crowd of young nurses, who watch and follow the doctor as he completes his rounds. Following a brief exchange of greetings, he invites me to accompany him as he continues his rounds between private rooms and the sparsely populated general wards. Thus in contrast to most ethnographers, who have had to cross significant institutional hurdles in order to observe medical practice (Long et al. 2008), the time elapsed between my initial request and observation in the clinic was ten minutes. I am welcomed to the visit the doctor's out patient surgery any morning or afternoon, and use this base of observation to gradually extend contacts, and observe medical practice in other clinics. I continue to visit the clinic over the next 18 months, and learn significant amounts about clinical medicine, the patient profile, daily life as a doctor and to gain an outsider's perspective on technologies and 'super-speciality' medicine. This provides an important basis through which to understand medicine of a past era – the paternalistic physician, who minimizes

[54] The hospital was recommended by a friend and was near my house. It also reflected the fact that I thought other private hospitals might be reluctant to let me observe practice.

the cost and extent of interventions performed on patients, with someone eager to share his passion and understandings of clinical medicine and the social aspects of health care.

From this base, I begin observations across different institutions, initially in general medicine, before moving onto popular specialisms, in particular cardiology, radiology and neurology, as the specialisations, most notably being transformed by the popularisation of 'luxury' technologies, namely CT scanning, MRI and Cath laboratories. I observed medical practice in at least two different outpatient clinics in four of the eight major hospitals. This enabled me to examine differences in medical practice within different hospitals and scanning centres. In total, I spent approximately 1200 hours in the first twelve months of fieldwork observing different doctors practicing medicine six-days per week in the out-patient clinics of hospitals, in the mornings and sometimes in the afternoon. Afternoons were used to interview other doctors and key stakeholders in the health care system (see appendix 1).

Observations began at 9 o'clock when doctors go for ward rounds. In private hospitals, doctors first visit the Intensive Care Unit if they have patients, before checking private rooms and the small general wards. Doctors then conduct 'OP' clinics, which finish between noon or one o'clock depending on the volume of patients. Doctors leave after this time to return home for lunch, and choose whether or not to come back to the hospital in the evening for a second round of outpatient work. Most doctors practice privately in the evenings, and are therefore part-time employees of hospitals, treating patients in clinics often attached to their homes, or some travel to hospitals in rural areas.[55]

With the exception of radiology, anaesthesia, microbiology, pathology and community medicine all other doctors conduct outpatient clinics, necessary to generate patient flows and to maintain their public profile. For example, the majority of surgeons conduct OP clinics rather than depending on referrals. Only radiologists and laboratory specialisms rely on referrals from doctors. These doctors tend to work as employees, although some also own diagnostic facilities. With the exception of ward rounds where doctor's travel around the institution, my view of the hospital (shadowing that of the doctor) was from the outpatient

[55] I did not conduct observation or ask to see how medicine in these practices, as doctors prefer to keep this space private, although many described their set up and how the level of personal service is higher than in hospitals. Doctors generally say this environment is much more relaxed than their hospital work.

clinic. With the exception of gynaecologists, surgeons and others performing specialist interventions (e.g. cardiologists, radiologists), other forms of treatment while patients are resident in the hospital are performed by nurses or junior doctors, who single handedly manage casualty departments in all but the latest corporate hospital. However, the expansion of super-speciality medicine and its dependence on technologies is integrating doctors into hospitals more than ever before.

From interactions in hospitals and interviews, I meet several doctors who invite me to accompany them on day trips, when they travel for two or more hours outside the city to conduct OP clinics in several hospitals in rural areas. Doctors work independently in rural clinics or on behalf of hospitals, treating patients in the periphery or arranging referrals. In one case the doctor held clinics in five different locations in an afternoon programme. In private hospitals junior doctors spend their time assisting the most senior consultants in OP clinics, writing prescriptions, case notes and discharge summaries. Junior doctors work as secretaries transcribing information, while having the opportunity to improve their knowledge of clinical medicine, if senior doctors take on a mentoring role. In some private hospitals a nurse is also often present inside the surgery to take the blood pressure or other measurements, while another nurse manages patients coming in and out of the clinic and medical records. In some instances four qualified staff assist senior consultants in their OP work. This reflects the ways in which the model of medical dominance shapes practice in the clinic, as the work of other staff and the definition of 'medical work' is often centred around the activities of doctors.

In an average three and a half hour period, a busy doctor will see around 35 patients, which works out at 5 minutes per patient, including the time to get one set of patients and their by-standers in, and the other out of the clinic. The speed of consultations was one factor limiting the possibility for 'thick description.' The pace of life in the clinic was somewhat frustrating, that it was difficult to fully understand cases, or to provide in-depth examples of medical decision-making. When questioned, some doctors would just tell me what the problem was, and what he had instructed the patient to do. Most were candid about the medicines they prescribed or matter of fact about the actions they took in the management of cases. Although I became more competent in the vernacular medical language used by doctors, this did not significantly enhance the extent to which doctors reflected upon their actions, and few made the clinical

encounter more opaque to in-depth scrutiny. With a few notable exceptions, most doctors were fairly unreflexive about their practice, as medical decision-making flowed relatively automatically and axiomatically in short consultations.

The clinic was an extremely important site to gain understandings of the most common health problems, the gaps between lay and expert perspectives in consultations, and to gain initial insights into the way in which patients navigate the health system, as evidenced by the considerable piles of medical records which patients have accumulated, over days, weeks, months or years of treating the same or different health problems, across multiple institutions. Observations in clinics were useful to 'know' doctors, to understand more about their lifeworlds, their opinions about patients, lay understandings of medicine and questioning of doctors, career histories, their particular interests in medicine, other hobbies, their relationship to the hospital. I was able to study verbal and bodily scripts used in clinical interactions, differences in the treatment of middle and lower class patients, and some insights into the clinical management of cases. Observations in the clinic were supplemented with wider participation in the social spaces where doctors interact, at continuing medical education programmes, professional meetings, other seminars given by doctors, and through invitations to eat and socialise in doctors' homes.

Interviews and observations were designed to capture transformations, as I spent time in the outpatient surgeries of older generations of doctors across the private and mission sector, conducted interviews with the former heads of medical college and other senior doctors now working in private hospitals. I explored the careers, aspirations and values of middle-aged doctors working as consultants, practicing medicine in different institutional contexts, in general medicine and other specialities. Gradually I was drawn to the most high tech set ups, to observe the work of cardiologist and radiologists. I interviewed doctors who had become businessmen as the owners of scanning centres and diagnostic laboratories. I developed friendships with younger generations of doctors studying at medical college and those struggling to earn a living and to gain admission to post-graduate courses. I explored how family and market contexts are transforming the opportunities of different doctors within a hierarchical and differentiated profession, and the factors determining and impeding the development of successful careers.

In the new corporate hospital, doctors were particularly keen to show me their

work. I spent five weeks observing outpatient clinics in cardiology and observing doctors working in the Cath laboratory performing angiograms. I was also invited to observe heart by-pass operations, viewing six operations at close quarters. I spent 12 weeks observing radiologists conducting ultra-sound examinations, and in some centres supervising CT and MRI scans. Observations focusing on the use of diagnostic technologies spanned six different centres - two standalone clinics and the radiology departments of four hospitals.

In the course of fieldwork I met approximately 200 doctors and conducted formal and informal interviews with 80 doctors on particular aspects of the health system. 15 doctors were key informants whose practices and lifeworlds I gained the most thorough insights into. Interviews with doctors spanned different subjects – doctor's backgrounds, careers, practices and opinions about health care or more specific issues (e.g. members of the Indian Medical Association, business investments, issues relating to particular specialisms e.g. radiology, cardiology). The diverse sample reflects the importance of studying doctors at different stages in their careers to understand how the attitudes of doctors vary over time, and according to their family background, and life stage.[56] Given the inherent limitations of 'studying up', the considerable scope of the research, the diverse sample of doctors interviewed, and the fact that most senior doctors form an extremely heterogeneous group or hold unique positions within the health system, this has restricted the extent to which it has been possible to triangulate data. However, the most important and shared concern to emerge from interactions with doctors, was the deterioration of the doctor-patient relationship (discussed in Chapter 7).

I also interviewed and briefly observed the practices of several doctors trained in homeopathy, āyurveda, unnani and naturopathy to gain comparative insights into different clinical styles and the opinions of doctors practicing other systems of medicine.[57] When I initially arrived in Kerala, I contacted and interviewed āyurvedic doctors. However I found it slightly frustrating that doctors either felt the need to start explaining āyurveda from first principles, or were interested in

[56] Most respondents were male, reflecting the dominance of men in most specialisations, with the exception of gynaecology. Spending time with female doctors was also more problematic. Most are busy gynaecologists juggling careers and families. However I did develop close friendships with four female doctors at different stages in their career. I spent a brief period of observation (5 days) in the maternity department of the government medical college with a group of female doctors, immediately before leaving the field.

[57] Given the complexity of transitions occurring in modern medicine and the dominance of allopathic medicine, medical pluralism is not explicitly addressed in the thesis, although transformations to other systems of medicine are briefly considered in Chapter 4.

talking to me because they perceived I might be interested in becoming a patient or that I could attract other foreigners to the institution. Even though I stated my interest was to understand local understandings of āyurveda, information was continually filtered through my status as a 'foreigner.' Thus the way in which āyurvedic knowledge was presented to me, often reflected how practitioners had learnt to present āyurveda to foreigners rather being able to capture the meaning and practice of āyurveda on local patients.[58] The problem was less significant in the fieldwork site because fewer foreigners visit the area, and several insightful interviews were conducted with local practitioners of āyurveda and unnani medicine. In modern medicine information was also filtered through my status as a 'foreigner' but to a lesser extent. This was mainly emphasised in conversations with radiologists, when discussing the use of diagnostic tests in Kerala. They compared the restricted use of technologies in the UK to the advantages of the Indian system in which patients are immediately able to approach specialists and have problems investigated.

Accessing the Patient Lifeworld

The most significant boundary in the hospital was attempting to access patients inside institutions. I had some opportunity to informally talk to patients although many are anxious when waiting to see the doctor in the hospital and opportunities were few inside the clinic. The other significant boundary in the hospital is the private spaces created for patients staying in rooms. Like a hotel, the institutional setting does not impinge upon their activities, and staff knock before entering. The hospital room is a home away from home (Cosner 1962, Minocha 1996), where time is spent with several by-standers, who stay during the full admission period, often sleeping on spare beds or mats on the floor, as the principle carers for patients during hospitalisation. It was inappropriate to impinge upon the lives of strangers by knocking on room doors, and it would have taken a considerable amount of time to gain access and acceptance in this context.

The second part of fieldwork on patients and lay perspectives was conducted primarily in the community, although as connections extended I bumped into acquaintances or patients I had seen inside another doctor's surgery in other hospitals, and occasionally had the opportunity to accompany people visiting

[58] Āyurveda is extremely popular with foreigners (especially Swiss and Germans), some Arabs and people from other parts of India, who travel to Kerala because of its reputation for more sophisticated and extensive forms of treatment (e.g. *pancha karma chikiltsa*) compared to other parts of India.

hospitals as out-patients or residents – following heart attacks, minor operations, for renal dialysis, birth and neo-natal care. I conducted formal and informal interviews with approximately 150 men and women across a broad spectrum of ages, social classes, and communities to reflect the diversity of people who are consumer-stakeholders in the private and public health care system (see Appendix 3). Unless people had specific health problems or experiences, interviews established general patterns of health care seeking behaviour, where people go for the treatment of minor and more serious ailments, where women had given birth and any recent experiences in hospitals. The most common themes raised by female informants was medical pluralism, pregnancy and aftercare. Others discussed named 'good' local doctors and those who were unsatisfied with their treatment in private hospitals (further discussed below) were the most willing informants.

I interviewed middle class families using a snowballing technique, alongside research conducted in one Hindu and two predominantly working class Muslim neighbourhoods (mixture of Gulf and Non-Gulf households). I initially established contacts through civil society organisations e.g. *kudumbashree* women and a Muslim cultural/ charitable organisation, building a network of guides and informants from different classes and communities, who recommended friends, relatives and acquaintances with health problems to interview.[59] Amongst women I collected data about pregnancy care, consultations with doctors, deliveries in private and government hospitals and pregnancy and aftercare, and opinions about the government and the private sector.

Several women active in community development were eager to take me to different neighbourhoods to interview people. Sometimes these sessions were conducted outside houses, turning into mini-focus groups, as neighbours stopped by, interested to join the discussion. I conducted interviews with patients with chronic illnesses (Type II diabetes, coronary artery disease, cholesterol, and dialysis patients). This was combined with participant observation with Muslim housewives, in stitching and cooking classes, and other friendships, so I could contextualise health care seeking behaviour, illness events and hospitals within broader understandings of people's lives and concerns. Although I was accepted as a 'nominal man' amongst middle-class males and amongst the medical

[59] The Kudumbashree organisation is part of the government mission to alleviate poverty, to encourage entrepreneurship and to provide work for women from poorer households. The most notable scheme and valuable scheme of this organisation is rubbish collection.

profession, this status did not extend to lower class households, where I socialised predominantly with women. [60]

Studying Experts and Cultures of Expertise

Before arriving in the field, I purchased two books I imagined would be invaluable companions. Firstly, the Oxford Medical dictionary, and the bible of public health, 'where there is no doctor.' In the field I added to my expert literature, purchasing the CIMS manual, which provides listings of the drugs available and regularly prescribed in India. The three books sat gathering dust on my shelf throughout fieldwork. Firstly, I thought observing medical practice, these books would be useful companions to improve my understandings and interactions with doctors. Secondly, my choice of 'expert' literature reflected the assumption that as a foreign woman (*madamma)* from the land of 'English' medicine, interviewing people about health matters, I might be construed as a semi-expert or be called upon for advice regarding health care, medicines or treatment (cf Finkler 2004).[61] Even though I spent 18 months accumulating knowledge of the doctors, clinics and hospitals of the city and interviewing people about health problems, only one family asked me for advice about a medical problem and the recommendation of a good doctor. I quickly learnt that people construct their identities as experts in all matters to do with health, illness and the body, despite high levels of dependency on doctors as 'experts.' This was also reflected in the types of information provided by respondents, who were willing to share their particular expertise about the body, local health practices, knowledge of doctors, or critical discourses on the health system.

Despite high levels of dependency on doctors, with the exception of educated middle class informants, engagements with biomedical knowledge, technologies and practices is limited and of little interest compared to local cultural knowledge of health and healing. This obviously limits the extent to which one can conduct in-depth research on a system of medicine about which people have limited understandings, interest or in-depth engagements with. Although patients showed me piles of medical records, this was not a particularly useful stimulus for in-depth conversations. I tried to understand lay values and attitudes towards 'good' health care, the relationships between new private hospitals and local communities, and lay understandings of super-speciality medicine. I was interested to understand medical literacy – the extent to which people appreciate

[60] For example, I was invited to talk at several evening functions attended exclusively by Muslim men.
[61] The term used to refer to foreign (white) women.

the types of medicine practiced by different doctors, the value of technologies, common health problems or parts of the body treated by different 'super-speciality' doctors, the ways in which people select an appropriate doctor for a specific health problem, how knowledge about modern medicine circulates and the reasons why people seek treatment from a particular doctor.

It was extremely difficult to discuss and research 'super-speciality' medicine because there is a considerable gap between patient lifeworlds and developments in the health sector. Therefore although it is easily discernable from observation of the flows of people to different institutions that technologies and super-speciality doctors signify higher standards in health care, they are not widely discussed or meaningful to many patients, as the expert domain of 'good' doctors. I took patient narratives of taking scans or medical checkups and tried to explore what people understand is happening during procedures, but insights were limited. Men from the middle class in particular, were quick to criticise technologies as a focal point for discussion of commercialisation.

The problem of researching modern medicine was further confounded by the gap between what people say they do and actual behaviour, particularly regarding the use of modern medicine versus other systems of medicine, and in the extent to which people admit to shopping around for health care, while maintaining they consult one or two doctors. Follow-up conversations were therefore important, particularly if people had recently suffered from an illness, reducing the gap between public discourses confirming the use of other systems of medicine (particularly, but not restricted to Hindu informants) and regular usage of modern doctors and medicines. Furthermore when people seek treatment from a doctor they are placing trust in the expert knowledge of that person, and often accept the authority of the doctor to take responsibility to cure the health problem.

A common discourse is for people to describe any doctor by name, saying they are a 'good doctor' without necessarily being about to elaborate what that might mean, or when questioned further only to elaborate to the extent that the doctor has 'good knowledge' or gives good medicines. Although some personal qualities of interactions were explored in interviews with the middle class respondents, who have higher expectations of social interactions, the assumed expert knowledge of the doctor is the most important value shared across social groups, and thus if more people go to a particular doctor, it confirms that this particular doctor is a good doctor. The discourse of the 'good doctor' reflects the fact by

describing a doctor as 'good', people are confirming the validity of their choice, because no one wants to see a bad doctor. It also reflects the high moral esteem and virtue expected of doctors in all aspects of their conduct, which sometimes constrains criticism, as moral figures blessed with divine healing power and knowledge.

Several male lower middle class informants from the Muslim community did not feel sufficiently educated or informed to talk about the health care system, preferring to pass me onto more educated members of the community, who had sufficient expertise to speak about such matters. Knowing about modern medicine, doctors and hospitals is an important part of the construction of modern selfhood (Dumit 2004, Van Hollen 2002, Rose 2006, Abel 2008). Men from the Muslim community in particular, are interested in discussing the biographies of different doctors, their qualifications, where the doctors has studied rather than evaluating the services provided by doctors or narrating personal experiences in the health system.

Amongst the patient population there were also many 'pussy cats' from the middle class, eager to narrate bad experiences in the health system, and to criticise the medical profession and private hospitals. When discussing health care seeking behaviour, men were keen to say they had one doctor, who was a 'good friend', illustrating the importance of the social and symbolic capital attached to knowing doctors. However in practice, many people shop for health care but do not necessarily admit this, unless discussing treatment-seeking behaviour in relation to an unresolved health problem.

Amongst women the major limitation was a lack of interest in discussing modern medicine. Many women talked about their belief in āyurveda, and were keen to discuss home remedies and pregnancy care. Although it often later transpired women used modern medicine, they were less willing to present themselves in this way, and eager to criticise allopathic medicines for their powerful and weakening effects on the body (Das and Das 2006, Nichter 1996). Women were generally less critical of doctors compared to men, but more reticent about using modern medicines. When interviewing people with chronic health problems (diabetes, heart disease and kidney problems), this was insightful to understand patient experiences of ill-health and people's understandings of advanced medical care. Critical reflection was more forthcoming if people were dissatisfied with

services, and only a few middle class respondents provided greater details of positive experiences.

Although I conducted some interviews with contacts known to my research assistant, in communities local guides were more useful in providing access to respondents from different communities. Instead, she translated interview data, recordings of interactions in clinics and collected other information (e.g. from small hospitals and records from the consumer court). In addition we watched and translated approx. 40 hours of television programmes on health and numerous articles from health magazines.[62] She was also useful a useful informant with whom I could freely discuss different issues.

Only two male migrants spoke positively about progress in the health care sector, although they thought Kerala is still not as good as the Gulf. Given the improvement to hospitals, relatively few commented positively on developments. Others, who praised progress in health care, were dialysis patients who were able to access a vital service locally, although the drain on family finances was a considerable strain for these families. Given the large volumes of patients at super-speciality hospitals, there is a considerable gap between the way in which people value the services of doctors and hospitals, what people say and actual usage of hospitals. This discrepancy can partly be accounted for by the fact that hospitals are filled with the families of Gulf migrants from rural areas. Therefore it is possible that people in the city prioritise convenience, whereas rural people want to consult a doctor in the city because it is a day out and prestigious, or the fact they have been referred from a rural area. I did not conduct any interviews with patients in rural areas, but patient records and interviews with doctor indicate rural people account for a significant proportion of the patient population.

Although technologies and super-speciality doctors shape the movement of patients around the health system, this was not readily discernable from interview data. Although health care has been transformed into much more than the doctor, people do not openly evaluate other services, yet this obviously

[62] There are three health magazines '*arogyam*' (health) '*arogya mazika*' (health magazine) published by the two leading newspapers in the state. The newly launched '*namude arogya*' (our health) is an initiative of the Indian Medical Association, which covers only biomedicine. The other two magazines feature articles by doctors across all systems of medicine, although modern medicine is dominant. A significant amount of technical information is provided in these magazines about biomedical procedures, compared to a more patient oriented or self-help culture of healthy living. In addition, each major television channel runs an hourly programme on health. Information covers all systems of medicine. Again, biomedicine is dominant. Items covered range from cancer, to piles, asthma, cardio-myopathy (refer to Chapter 7).

shapes positive experiences in the health sector e.g. staying in a more pleasant room. While there is a considerable amount of prestige associated with consuming health care in new 'luxury' hospitals (Donner 2003), this is difficult to capture beyond what consumers say they value in the services provided by the hospital, beyond the 'good doctors.' Doctors were more articulate about the need to perform standards in health care through technologies, laptops, qualifications, pleasant waiting rooms, and higher charges, as factors increasing public perceptions of quality. Although it was relatively easy to focus on general medicine, cardiology, radiology and screening technologies in the clinic, this was more difficult to follow up in researching lay engagements with the health system. Insights from patients are therefore tempered by consideration of the difficulty of researching 'high tech' health care in a medically plural environment, although this data is also supplemented by insights gained from the clinical setting.

Data Analysis

Arriving back from the field with twelve note books filled with interview data, observations, verbatim quotes and notes on particular incidences, I familiarised myself with the data by reading through my note books several times, using highlighters to mark different comments, incidences of interest and emergent themes which I wrote on post-it notes on large pieces of paper to order and play around with different ideas – specifically relating to the use of technologies; hospitals; trust and the doctor patient relationship; standards and the performance of quality. Reading through the data, I made notes in order to analyse common discourses, specific incidences of relevance to illustrate different themes and to collect the comments of different actors on the same subject in order to triangulate different accounts, and to think about reasons for differences in perspectives – particularly in relating to the divergences between doctor's views of patients, and the opinions of patients about doctors.

Analysis raised challenges to think about the politics of representation between common themes and exceptions in the data, in order to provide a balanced picture of the relationship between private hospitals, doctors and technologies – for example, given the tendency for patients to be more articulate and critical if they had received poor services, versus the more ambivalent responses of patients who have been satisfied with treatment. In the final analysis, examples are used which are illustrative of problems and representative of common themes. In writing this thesis I have also assumed the position of expert to both represent and reconcile the perspectives of doctors and patients; while

maintaining a critical standpoint to document the social processes shaping the growth of the health care market versus the 'needs' of health consumers. The next chapter explores the diffusion of modern medicine in Kerala and India, to understand the social basis of medical power.

Chapter 3:
Medical Mediations: Doctors, Science and Social Power

It is commonly understood the dramatic improvements in life expectancy and population health during the 20th century have stemmed from the rapid progress of modern medicine – from the discovery of the germ theory, to the development of x-ray machines, magic bullets and more recent miraculous therapeutic advances across many fields of medicine from oncology to gene therapy (e.g. Cutler 2004). However conventional wisdom conflates the history of health with the history of medicine (Rao 2001, McKeown 1976, McKinlay and McKinlay 1977, Doyal and Pennell 1979).[63] Although population health is largely determined by the distribution of resources in society (Wilkinson and Pickett 2009, Wilkinson 1996, Doyal and Pennell 1979, Black Report 1988), modern societies now devote a large proportion of economic resources to the production and distribution of 'health care,' as a sub-set of health-oriented activities (Evans and Stoddart 1990:1347).

In Kerala, people engage in a wide range of behaviours to care for their health – daily hygiene practices, bathing, diet, exercise, prayer, worship, rest, the maintenance of good social relationships and visits to the doctor. As a result of the expansion of mass manufactured medicines, advances in therapeutic services and greater 'awareness,' people now spend a considerable amount of money on health care as a "particular collection of commodities, which are perceived as having a positive relationship to health" (Evans and Stoddart 1990: 1347). Processes of health commodification reflect the belief that health can be achieved through the consumption of medicines (Nichter 1996), shifting orientations away from the social determinants and distribution of health and illness to an over-emphasis on the provision of curative services. This has led to greater dependence on pharmaceuticals and the expert knowledge of doctors, technologies and hospital-based care.

This chapter explores the early diffusion and popularisation of European medicine in Kerala as the modern values of health care and education were diffused through the patronage of the British, the local Maharaja and social mediations by local elites (Kabir and Krishnan 1996). While western medicine failed to make an

[63] For example, in western countries, the death toll from tuberculosis had declined considerably before the discovery of the germ theory and by the time chemotherapy became available in the 1940, tuberculosis had ceased to be a major public health problem (McKeown 1976).

impression on the native population in other parts of India (Harrison 1994, Arnold 1993), in Kerala access to western medicine, education and employment became sites for symbolic struggle, central to caste based reform movements, leading to popular engagements with modernity in which doctors played an important role as community leaders. The first section examines the rise of the professions and the social basis of practiced medicine, as guardians of expert knowledge of health and healing, drawing comparisons between western and Indian contexts. It then examines the diffusion and popularization of European medicine in colonial India and its particular history in Kerala. The third section examines the role and social organization of the medical profession as an important basis from which to understand the growth of the private sector and the diffusion of high tech medicine in Kerala.

The Rise of the Professions

There are four branches to historical development of health care – as knowledge embedded in the household and community; of healing as elite culture developing from the ancient civilizations of China, South Asia and the Mediterranean; as commodified health from the purchase of medicines; and diverse forms of institutionally-based care. Medicine as elite culture developed in the ancient world, as healers differentiated their practitioners from local traditions through multiple strategies towards professionalization (Leslie 1976). The professions of law, the priesthood and medicine formed a new elite in society, with secular and sacred power to serve the prevailing social order. Redfield (1956, cited from Leslie: 1976:2) describes the differentiation of great and little health traditions as,

"the separation of culture into hierarchic and lay traditions, the appearance of an elite with secular and sacred power and including specialized cultivators of the intellectual life, and the conversion of tribal peoples into peasantry."

The medical profession distinguished their learned traditions from humble practitioners based on textual knowledge and education, which formed the basis of early efforts towards professionalization (Redfield, ibid: 2).[64] In these texts, rational theories and therapeutic formulas were elaborated far beyond the knowledge of the layman and folk curers. In western contexts, the professions were the first members of the knowledge economy, as a group who individually

[64] Professional standards for education and practice were developed through references to sacred texts, of Galen (Greece), Caraka (India), the Nei Ching (China) (Leslie 1976).

and collectively used education and the cultivation of a genteel status to improve their social position and income in society through claims to expertise (Digby 1994, Coxon and Jones 1978, Parry and Parry 1976).

In Asia, the great traditions emanating from elite culture controlled access to education and legitimated their status in service to nobility, the army and other elites who sponsored medical education (Leslie 1976, Rajasekharan Nair 2001, Kawashima 1998, Menon 2002). The history of medicine as a charitable enterprise therefore emerged through the patronage of philanthropists, the state and the missions who employed doctors thereby extending medical treatment to lower socio-economic groups (Leslie 1976, Bynum 2006, Rosner 1982, Rajasekharan Nair 2001, Arnold 1993). However, most physicians cultivated private practices amongst cosmopolitan sections of society who could afford the high fees of professional doctors (Leslie 1976, Caplan 1989, Mahroof 1998, Digby 1994, Harrison 1994, Alavi 2008).

The high social status of the professions in western contexts was not assured by virtue of medical education, and doctors had to work to win the confidence and patronage of clients. The social attributes, decorum and genteel status of the doctor were important, particularly before the invention of more effective therapies in what historians note was generally a patient-dominated relationship (Porter and Porter 1989, Digby 1994, Bynum 2006). By comparison in India, knowledge of healing was linked to hierarchical caste structures and the esteemed basis for healing practices was based on sacred knowledge from scriptures.[65] Therefore in contrast to western contexts where the medical profession had to work collectively in order to achieve social mobility, in India healing knowledge further elevated and added to the status of elites, who initially controlled access to textual knowledge and the modern medical profession, thus limiting and circumventing the development of a stronger collective model of the profession (Jeffery 1977).

[65] Members of lower caste groups also learnt textual traditions (discussed below). Recent historical work has also begun to problematise the flawed distinction between 'high' Sanskritic and 'low' 'folk' traditions (e.g. Lambert 2007).

The Social Contexts of Medical Knowledge and Practice in Kerala and India

Kerala traces its heritage in āyurveda to the eight great reputed families of *ashtavaidyans,* who became known as great scholars and teachers of *vaidyam* amongst the priestly caste of *Nampoothiri Brahmins* (Krishnankutty 2001, Varier 2002, Eraly 2006).[66] The Nampoothiris became dominant in Kerala from the sixth century onwards, based upon the sacred power they wielded from their priestly right to conduct sacrificial rituals. Nampoothiris acquired land next to temples and developed the Sanskritic tradition of āyurveda.[67] Temples became important sites of healing, as physicians developed a reputation for the treatment of specific diseases, such as small pox and mental instability through the performance of rituals, which became associated with particular temples (Krishnankutty 2001:19).[68]

The Varier family, who played a central role in the revitalisation movement of āyurveda was from the *Ambalavasi* caste, between Namboodiris and Nayars, who depended on the temple for their livelihood (Varier 2002, Krishnakutty 2001). The Ambalavasis cleansed ritual areas of the temple, acquiring land for their service, while also becoming astrologers, Sanskrit scholars, poets, dramatists, teachers and skilled vaidyans (Krishnakutty 2001:3). Prior to the 20th century, training in indigenous systems of medicine was through the ancient *gurukkal* system, whereby students studied for many years under the tutelage of one physician (Leslie 1976, Menon 2002, Krishnakutty 2001). Varier (2002) argues that as medicine was looked upon as a means of earning a living like any other, the physician's job was perceived as hereditary, that the right to practice medicine was by birth rather than education. However, healing knowledge was not restricted to the upper castes and many *Ezhavas* used the title *vaidyan*, practicing medicine and acquiring knowledge of Sanskrit. Most notably, the spiritual and moral reformer Sree Narayana Guru, who led the social reform

[66] Vaidyan is the generic vernacular term to refer to a healer. In everyday usage, vaidyan is applied to formally and informally trained practitioners of āyurvedic practitioners, whereas homeopathic and allopathic practitioners are referred to as doctors. Formally trained āyurvedic practitioners may also be referred to as doctors.

[67] The Sanskritic tradition of medicine has been important to Kerala, although the rich diversity of āyurvedic treatments, which differentiates Kerala's unique style of āyurveda reflects the incorporation of local traditions into mainstream practices e.g. the therapeutic efficacy of coconuts (Krishnakutty 2001).

[68] Temples, mosques and churches are important sites for healing, particularly for chicken pox and mental illness (see Halliburton 2005, Kakar 1991), in addition to the general mental and physical strength people acquire from religious activities in times of sickness, health and uncertainty (Leslie 1976, Jansen 1978, Nichter 1992, Whyte 1997).

movement of the Ezhava caste, came from a noted family of vaidyans (Krishnakutty 2001).[69]

Indigenous physicians in India prepared elaborate potions, using valuable and esoteric substances such as herbs gathered from distant mountainsides, saffron, gold, precious stones or parts of rare animals. Thereby physicians were able to mystify their healing craft, using valuable substances in order to perform authority and create belief in their healing capabilities (Leslie 1976). Similarly efforts in dress, deportment, language, therapies and high fees were important ways to create value in service, to convince clients of expert status (Leslie 1976, Starr 1982, Caplan 1989). Treatment combining the administration of medicines, exorcism and ritual reflected the sacred elements of sickness and cure (Krishnakutty 2001, Varier 2002). Medical knowledge was withheld as secret power based on the morality and agency of individuals, passed down through families and caste groups. Other gentlemanly physicians also used their knowledge of scriptures and herbs to practice medicine in the community in social service without fees. Knowledge of medicines has been an important basis from which to draw social status (Pinto 2004), practicised amongst different community groups. Thus the performance of esoteric healing knowledge has been an important basis of social power and authority of healers. The following section examines the limited diffusion of western medicine in India, before examining the early popularisation of modern medicine in Kerala.

The History of Western Medicine in India

Medical systems spread to India through Arab, Portuguese, Dutch and British traders. The first western hospital was established by the Portuguese in the late 1490s to treat injured members of the military (Baru 1998, Rajasekharan Nair 2001). The services of European doctors were popular amongst local nobility, acting as a form of international diplomacy, which helped the formation of more cordial relationships between the British and local elites. European physicians' new knowledge of disease and treatments was valued at the very least because of its exoticism, if not its superiority to the techniques of indigenous practitioners (Kochhar 1999). Myth recounts the free succession of trading rights were granted to the East India Company in Bengal, in gratitude for the treatment by a

[69] Sri Nararyana Guru led the Ezhava reform movement - Sri Narayana Dharma Paripalana Yogam (SNDP).

European physician of the Mughal emperor Shahjahan's favourite daughter following a fire (Kochhar 1999, Rajasekharan Nair 2001). [70]

European doctors were initially interested in learning about indigenous medicine herbs and plants and many sought the treatment of indigenous doctors for local fevers (Arnold 1993, Varier 2002, Hardiman 2007). Both systems shared humoral understandings of the body and disease until the late 19th century (Kochhar 1999, Bala 1991, Leslie 1976). Western medicine's advantage over indigenous systems was therefore initially in surgery. In the modern period surgery was not practiced by indigenous healers, generally considered as defiling work, practiced only by barber surgeons (Arnold 1993). However, between 600-800 BC the famous āyurvedic physician, Sushruta performed plastic surgery (e.g. nose reconstruction, cataract operations, laparotomy (abdominal surgery) vesicle lithotomy (removal of bladder stones), and also described diabetes (Raju 2003).

Painting of Susruta circa 600 BC, performing a skin graft on a burn victim, hallowed in India as the father of modern surgery. The painting is still an important part of the visual imagery of the modern medical profession, painted on a large mural in the local medical college and also circulated in printed calendars given to doctors by pharmaceutical companies.

[70] This chapter uses the term western or European medicine to discuss medicine under colonialism. In the local fieldwork context *allopathy* is the term more commonly used by members of the lower middle class, who relativise the status of modern medicine, alongside homeopathy, āyurveda and unnani. Less educated persons still use 'English medicine.' 'Modern medicine' is used by young people, members of the middle class and the medical profession. The thesis predominantly uses the term modern medicine, as the most common vernacular term. Leslie (1976), following Dunn (1976) popularised the term 'cosmopolitan' medicine in academic writings on India's plural medical traditions, while also advocating the use of vernacular nomenclature.

Mission and state sponsored institutions carried out most surgical work, used by common people in desperation after the treatments from *hakims* and *vaidyas* had failed (Arnold 1993, Ramanna 2002). Although feared, patients gradually came to accept surgery compared to the lengthy treatment of indigenous practitioners, forming the basis of work in many mission hospitals (Fitzgerald 2001, Somervell 1939). As Fitzgerald (2001) notes, contrary to the claims in mission propaganda that people in India were 'clamouring' for Western forms of medical attention, through "harmonisation to local sensibilities and habits," English medicine was eventually greeted "as a stranger but not an enemy" (Pati and Harrison 2001:25). Although the legal profession flourished without much state support, Arnold 1993:3) notes that after one hundred and fifty years of British rule, western medicine struggled to establish itself among the Indian people. This in part reflected the interests of the colonial administration in utilising European physicians to serve the interests of the military and other officers stationed in India (Jeffery 1988, Kabir and Krishnan 1996, Banerji 1985, 1996).

The dominance of western medicine over indigenous systems was primarily facilitated through state patronage, extending provision throughout urban and many rural areas (Gupta 1976, Muraleedharan 1992, Bala 1991, Jeffery 1988, Ramanna 2002, Arnold 1993). The philanthropy of Indian elites also played a crucial role (Ramanna 2002, Arnold 1993). The education of Indian practitioners was essential to reduce the perceived foreignness of western medicine reducing perceptions of western medicine as a form of state power or religious conversion to be treated with suspicion (Arnold 1993, Ramanna 2002). By contrast, local doctors understood local sensibilities, although class differences were considerable barriers to acceptance between elite doctors and the lay population (Marriott 1955, Carstairs 1955).

In many parts of India, the vast majority were content with the innumerable, accessible practitioners of indigenous medicine and treatment from western medicine was a last resort, making little impression on the beliefs and practices of the great majority of the Indian population (Arnold 1993:3, Carstairs 1955, Marriott 1955, Harrison 1994, Fitzgerald 2001, cf Kawashima 1998, Kabir and Krishnan 1996). Consequently, in the early 20th century many European trained doctors struggled to make a living alongside numerous quacks (Harrison 1994). Similarly Arnold (1993) argues that Calcutta could not support the services of one hundred doctors during that period. This also reflected the inability of many patients to pay the fees charged by western doctors compared to indigenous

practitioners. However in the provision of hospital-based care, British administrators were concerned by the lowly status of western medicine, as many dispensaries were used by the most destitute sections of society. In response, different hospitals built visiting rooms for high-caste patients, attending to caste requirements in diet and accommodation (Arnold 1993, Kabir and Krishnan 1996). In contrast to the limited acceptance of English medicine in other parts of India, the following section examines processes of social intermediation, which led to the early popularisation of modern medicine in Kerala.

Two Histories of Medicine in Kerala

Kabir and Krishnan (1996:241) use the concept of social intermediation to understand the social, cultural and behavioural environments facilitating health transition. Social intermediation considers the prevailing set of social and economic conditions governing the relationships within and among different communities, determined by the distribution of land and other economic assets, caste structures and gender attitudes. Applying these insights they explore the particular histories of western medicine in Malabar, under the direct rule of the British and the princely state of Travancore in Southern Kerala. With an ancient population of Christians, Travancore differed from other areas of India due to the early development of the plantation economy and the progressive attitudes of the Maharajas towards western medicine and education. In Travancore western medicine flourished from 1811 onwards, as part of the developmental of state and due to the favourable attitudes of the Maharaja towards the activities of the missions (Kabir and Krishnan 1996, Kawashima 1998, Rajasekharan Nair 2001, Menon 2002).

Menon (2002) argues biomedicine's entry into Travancore was facilitated by two factors - the smallpox epidemics that ravaged India in the early 19th century, leading to the vaccination of royal household and the establishment of numerous small pox vaccination units in Travancore and Cochin (Rajasekharan Nair 2001); and the Treaty of Permanent Alliance between Travancore and the British, which facilitated the East India Company's intervention in the internal administration of the state. Shortly afterwards, the proliferation of biomedical institutions was initiated in Travancore under the supervision of the British. The first hospital opened in 1817 and a Durbar Physician (a European) was appointed. Within a decade 27 hospitals, 30 dispensaries and 12 grant-in-aid institutions were established. Eager to further expand facilities, in 1928 the government requested

advice from the Rockefeller Foundation in America to organize a public health department along modern lines (Menon 2002:88-89).

In Travancore the charitable state offered free medical relief to the people until the 1940s. Treatment was provided and used by all castes, although separate provisions were made for lower castes, who were treated outside after other patients, and eventually housed in separate accommodation blocks (Kawashima 1998, Kabir and Krishnan 1996). Western medicine became popularised and petitions were received for the extension of dispensaries and hospitals throughout the region. Between 1870-1930 the number of patients treated in government institutions rose from 66,757 to almost 2 million compared to the mission sector, which treated less than one tenth of this number. Although the London Mission Society (LMS) treated considerably less patients, their facilities in Travancore were the largest of its kind anywhere in the world with 23 medical stations. In 1930 Travancore alone accounted for 43.8 per cent of all patients treated by the society (Kawashima 1998).

Western medicine became popularised through the provision of curative services, the dispensing of medicines and the addition of lying in hospitals for maternity care (Kabir and Krishnan 1996). The European physicians running the Medical Department worked with Indian medical officers as surgeons, assistant surgeons, apothecaries and hospital assistants - the majority of whom were from the Syrian Christian community.[71] Although a medical college was established in 1869, it closed soon after due to a lack of staff. Compounding classes and instructions to dressers were provided instead (Rajasekharan Nair 2001, Kabir and Krishnan 1996). The Maharajas sent Brahmins to train in medicine at Madras Medical College, so they could serve as physicians to the royal court. Forward caste Syrian Christians and Nayars also studied European medicine, receiving stipends from the Maharaja to cover their expenses (Rajasekharan Nair 2001). Doctors returned with the titles 'apothecary' or Licensed Medical Practitioner (LMP). The prestigious status of modern medicine was therefore assured through popular support from local nobility and the training of members from the forward castes, as a new route to income and esteem in the modern economy.

As lower castes were prohibited by the Maharaja from entering the medical profession, access to medical education became an important field through which

[71] In 1908 out of 87 officers of all grades in the Medical Department, 53 were Christians, 23 Sudras, 8 Brahmins, 2 Mahomedans and one was Ezhava (Kawashima 1998).

social exclusion and injustice found a new articulation, as a site for symbolic struggle and reform (Sankarankutty Nair 1980, Kabir and Krishnan 1996). At the same time, the work of the missions facilitated the entry of low caste groups into primary education, which helped to politicise caste based discrimination, as well as encouraging religious conversions (Kabir and Krishnan 1996). Entry to the medical profession was denied to Padmanabhan Palpu, a founding member of the Sri Narayana Dharma Pariplam Yogam (SNDP) (Sankarankutty Nair 1980, Kabir and Krishnan 1996). Despite having achieved the necessary grades in the merit exam, Palpu was refused entry to medicine in Travancore in 1884. However, he later qualified with a Licentiate in Medicine and Surgery (LMS) from Madras Medical College. He was from a rich, educated family of Ezhavas, but despite his professional qualifications, many of his fellow doctors refused to acknowledge his status as a doctor because of his caste. Following graduation, he was refused employment by the government of Travancore, eventually finding work as a British public health doctor in Mysore. From there he worked to improve sanitary conditions in the city, also setting up a company to manufacture medicines. Later, he pursued his studies in England, where he petitioned the British parliament on the plight of the Ezhavas (Sankarankutty Nair 1980).

At that time Ezhavas had to keep away from high castes in public spaces as pollution was thought to travel across distances (Jeffrey 1976, Kurien 1994). Due to caste prohibition rules, popular mobilisation was considerable, as educated elites mobilised the community and petitioned for reform. In 1896, Dr Palpu submitted a mass memorial signed by 13,176 Ezhavas demanding admission to government schools and their appointment in public positions. Both Dr Palpu and Sri Narayana Guru were aware of the importance of education not only for economic advancement but also to change social and behavioural attitudes towards health and hygiene (Sankarankutty Nair 1980).

In Travancore, the training of women in the provision of health services was also significant in reducing cultural barriers to the acceptance of western medical interventions. Dr Frances Hoggan, one of the first female doctors in the UK argued the Indian Medical Service was failing the requirements of Indian women. She recommended the training of female doctors, necessary to meet women's health care needs (Mukherjee 2005:272). Women were first admitted to Madras Medical College for a three-year certificate course in 1875 (Mukherjee 2005, Kumar 1998). However in Travancore, the Maharaja initially restricted women's entry into the medical profession. The first female doctor, Dr Mrs Mary Poonnen

Lukose, came from an aristocratic family of Syrian Christians. Her father was a doctor and although he was a close friend of the Maharaja, she was refused entry to Madras Medical College in 1910s, eventually travelling to England to study medicine. She later became the first Surgeon General of Travancore in 1938 and the first female holding a position in Indian government (Rajasekharan Nair 2001, Kabir and Krishnan 1996). By 1925-26, there were 13 qualified women doctors, two of whom held European degrees. As female education extended, women were also integrated into the wider provision of health services. Women from the Nayar, Muslim and Brahmin communities were trained as vaccinators. 51 midwives were attached to different hospitals, which women travelled to from across the region. Later others were trained as compounders and nurses, facilitating wider acceptance and inclusion of women's health into reform movements (Kabir and Krishnan 1996).

The popularisation of western medicine amongst local elites, who extended their concerns to members of the lower castes, imbued seeking treatment from a doctor with a moral force. From the 19th century onwards the rights of backward castes to health and education were an important mechanism through which ideas of local justice were articulated in reform movements (Kabir and Krishnan 1996). In the process, hygiene, health 'awareness,' and seeking treatment from a doctor, became important articulations of modern, educated and enlightened subjectivities. In contemporary Kerala, seeking treatment from a doctor is discussed as part of collective Malayali identity, who favourably contrast their health care seeking behaviour, knowledge and 'awareness' of disease, compared to other parts of India, where 'backwardness,' a lack of education and ignorance are seen inhibiting appropriate modern behaviour in matters of health and illness.[72]

By comparison, western medicine only fully developed in the post-independence period in the Malabar region of Northern Kerala.[73] Malabar was under the direct rule of the British and a site for struggle and resistance against colonial rule, first led by Hyder Ali and Tipu Sultan from the neighbouring district of Mysore (1766-1792), and subsequent uprisings against the British by the local Mapilla population (1836-1921) (Logan 2004[1887], Panikkar 1989, Radhakrishnan 1989). The Muslim community were pauperised under the British, and hostile to

[72] Malayali is the term commonly used by people from Kerala, as a collective term for native speakers of the Malayalam language.
[73] The diffusion of western education and medicine in Cochin in central Kerala largely followed patterns in Travancore (Rajasekharan Nair 2001, Kabir and Krishnan 1996).

the activities of missionaries. The first medical intervention in the area was the introduction of the small pox vaccine in 1801, sparked by concerns of the British to protect the army and civilian populations from the potential ravages of infectious disease. In contrast to Travancore where the royal family were the first group to be inoculated, objection to vaccination came from almost all caste groups, in particular Nayars and Nampoothiri Brahmins.[74] This group formed the upper caste elite, as landlords and leaders of their villages who influenced the behaviour of other social groups. Vaccinators recruited in Malabar belonged to the lower caste *Thiyya* community, who came into close contact with the British, taking up western education and employment in the company. Upper caste groups refused vaccinations by *Thiyyas*, while also refusing to vaccinate lower castes. Although the British tried to recruit vaccinators from different groups and women, this was unsuccessful (Kabir and Krishnan 1996).

The first doctor to practice western medicine in the area was a German missionary, Liben Der Fur, who established a practice in 1886. Several years later he set up a small maternity hospital in 1892 as part of the Basel mission, and helped establish a leprosy hospital in 1901. By then the British had also started a small hospital in the area, although a lack of funds inhibited expansion. Although there were plans to establish a medical school in 1917, activities stopped due to hostilities between the Germans and the British during the First World War. Until the 1930s, service provision was limited to the activities of a few small dispensaries in the mission sector focusing on leprosy, malaria, filariasis and tuberculosis.[75]

Although the British temporarily established a medical college and general hospital during World War II, it was closed soon after. Medical care in the area only fully expanded following the formation of the state of Kerala in 1956 (Kabir and Krishnan 1996). Compared to the south, educational facilities were relatively under-developed in the area, although many primary facilities were established by the government, alongside a limited number of missionary institutions. Schools were established on the condition that fees were charged, prohibiting the entry of lower caste groups. Objections were also raised by high castes, although discrimination was not as virulent compared to southern areas. When the state was formed in 1956, infant mortality rates in Malabar were twice that of

[74] Within Hindu cosmologies, small pox was attributed to the wrath of Mariamman, an incarnation of the goddess Kali, that attempts to control the disease were seen as futile (Kabir and Krishnan 1996).
[75] With the exception of the leprosy hospital none of the other institutions have survived into the modern period.

Travancore and Cochin. However progressive reforms rapidly improved the health status of the population, almost aligning health indicators with state averages by the 1980s (Kabir and Krishnan 1996). In southern and central Kerala, the area is still perceived as 'backward', falling slightly behind averages in literacy and basic health indicators. However modern values of health and education have been widely embraced as a result of increased income from Gulf migration and the expansion of private facilities in health and education, led by elites from the Muslim community (Osella and Osella 2009). Developments in health care and education have been particularly rapid in the last twenty years, further intensifying in the last ten and even five years.

Medical Pluralism and the Health Care Market

Kerala was the centre for the revitalisation movement in Āyurveda during the early 20th century, pioneered by the Varier family at Kottakkal Arya Vaidya Sala in Malabar, inaugurated in 1902 (Varier 2002, Panikkar 2002). It began as a small institution manufacturing native medicines to compete with the success of western medicine shops and pharmacies, which in the words of its founder was necessary, 'to cultivate faith in the minds of people towards native medicine' (P.S. Varier cited in Varier 2002:30). A hospital was later established in 1924, alongside facilities for medical education. Homeopathy was also introduced in the state in 1906, receiving official recognition in 1928 in Travancore, although government institutions did not come into existence until 1958 (Menon 2002). [76]

Although by far the largest number of government institutions provide modern medicine (143 hospitals and over 5,000 dispensaries), the state has continued to expand facilities including medical colleges in homeopathy (31 hospitals and 394 dispensaries) and āyurveda (108 hospitals and 587 dispensaries). In the private sector development has been more limited in homeopathy compared to modern medicine and āyurveda. Although homeopathy is popular for the treatment for children and the elderly because it is seen as having a gentle effect on the body, expansion has been limited because therapy is primarily based on the

[76] In Travancore, the Maharaja's support for European medicine led to the popularisation of allopathic medicine, while hindering the development and expansion of indigenous healing systems. However, the situation gradually changed towards an organised plural system of medicine, initiated in 1875 when āyurveda first received state recognition, more than half a century after the opening of the first hospital for western medicine. An āyurvedic physician was first appointed to government service in a biomedical hospital. In 1886-87 the first āyurvedic school was opened as a private undertaking, taken over by the state two years later, to form the Department of Indigenous Medicine. The first āyurvedic hospital was opened by the state in the 1930s (Menon 2002).

consumption of small white sugar pills, to which different tinctures are applied.[77] Some homeopathic physicians have diversified, developing interests in dyslexia and learning difficulties, reflecting the wider role of doctors as experts in treating any social problem. In the fieldwork site, there is a homeopathic medical college providing medical education and residential care, although it is predominantly used by poor patients.

Āyurveda is also extremely popular and is generally the most expensive system of medicine for the treatment of everyday illnesses due to the quantity of different preparations prescribed. Āyurveda has primarily expanded in the private sector, and luxurious centres have been established in the most exclusive hotels, resorts and smaller home stay facilities across the state, aimed specifically at the medical tourism market.[78] Retreats and treatments have also been marketed to affluent Gulf migrants, for orthopaedic problems and the treatment of diabetes, and are popular for residential care when migrants return for extended residential treatment programmes. Some smaller āyurvedic hospitals are expanding services for post-natal care, competing with the extensive system of home care and remedies provided by natal kin to restore health following delivery. A limited number of Arabs are also coming to Kerala for āyurvedic treatments (typically for rheumatoid arthritis) at luxury hotels or at the famous Kottakkal Arya Vaidya Sala. Although there is no government hospital for āyurveda the main fieldwork site, I visited one institution in a nearby town, which provides long-term residential care for severely mentally and physically handicapped children. This reflects the ways in which different institutions and doctors across different systems of medicine in the private and public sector adapt to serve different functions, rather than the meaning of institutions being fixed according to the system of medicine being practiced. For example, one of the few unnani practitioners in the city specialises in sexual health problems, that many different doctors develop specialist interests, practices and expertise.

[77] Refer to Bardwaj (1980) for the most comprehensive review of homeopathy in India.
[78] Refer to Jean Langford (2002) on the popularity of contemporary āyurveda among western tourists to India.

Doctors in Society: Elites, Social Reformers

In industrialised societies, Freidson (1988[1970]) emphasises the pre-eminence of the medical profession in their legally sanctioned right to define health and illness. However in India, modern doctors have had to work alongside practitioners from different systems of medicine, administering treatment to patients with different health beliefs. As a numerically small elite privileged under colonial rule, the lifestyles of the professions in developing countries have been examined as important role models for the rest of society (Evers and Silcock 1977, Béteille 1991, Mahroof 1998). In India the small number of elites who benefited from colonial rule reinforced the values of English education, scientific knowledge and technical ability. For doctors, privilege has been further augmented by the esteemed nature of healing work in the treatment of illness, and the wealth, which is expected to flow to the successful practitioner (Rajasekharan Nair 2001). Although the medical profession in India has had to compete with practitioners, modern or *allopathic* doctors have been highly esteemed. In other parts of India (e.g. Nichter in neighbouring Southern Karnataka), the term 'English' medicine is commonly used, but term is less popular in Kerala. This indicates the stronger model of social intermediation, and the extent to which modern medicine has been adopted socially, although not philosophically into local lifeworlds (particularly in the case of middle to lower-middle class).[79]

Srivastava (1998:9) urges an approach to the reproduction of class and the definition of citizenship in which the 'cultural' and 'economic' are two reinforcing spheres of power. Through this dialogue he argues class differences and economic exploitation became reconstituted into differences based on 'absences' and 'lacks' and the need for institutions to alleviate these shortfalls of character (ibid: 11). In Kerala, doctors from the backward communities have been particularly important as community leaders, setting the agenda for reform. As Osella and Osella (2000:9) note, reform movements in Kerala created 'a dialogue between local ideas of justice and equality and European derived notions of modernity and reform.' Health and medicine were central to moral reform, initially through the demands of elites for access to medical education, and subsequently through their role as elites – setting the parameters for reform, for

[79] People still maintain strong local beliefs and culture of health and healing e.g. extensive āyurvedic and home treatment after birth. A brief sketch of the medically plural health care market is provided at the end of the chapter.

example, in demanding better access to modern health care, education and hygiene reforms.

In Malabar, as an area relatively underserved by private educational establishments until the post-independence period, doctors from the Muslim community have played a vital role in increasing access to education and as central leaders in community reform movements. For example, Dr Abdul Gafoor founded the Muslim Education Society (MES) in 1964, which works towards the educational, social, and cultural up-lift of Indian Muslims. The society has been at the forefront of the recent expansion of self-financing engineering colleges, opening one of the first private medical colleges in 2002. Osella and Osella (2009:s210) examine the role of elite businessmen in promoting reform through education, 'systematic lifestyles' and rational practices. As embodiments of success and through their charitable work in establishing schools, orphanages, trade organisations and politics, they emphasise how elites have legitimated their status as community leaders, through paternalistic concerns for the 'upliftment' of the community, and as moral guardians of the 'common good.'

Doctors from the Muslim community have played an important role in extending services to the local community from the 1960s onwards. One doctor who trained as a surgeon set up a small community hospital to serve the working class people from the area near the bazaar. The hospital still functions today, serving the local population for basic consultations and procedures. The doctor is fondly remembered with a considerable amount of respect as the most famous doctor from the community. A considerable amount of good will and trust has therefore been established between the Muslim community and doctors, respected for their achievements and service to the community. Paternalistic attitudes have set expectations for doctors and other business people to work in service to the local community, to exhibit an attitude of benevolence, and for social service to come before profit. Although people from the Muslim community consult hospitals and doctors run by other communities, institutions run by members of the Muslim community are expected to show an attitude of social service. This is important to understand the position of the new corporate hospital, as it is owned by an elite businessman from the Muslim community, thus raising expectations of benevolence rather than profit.

Professional Powers, Healing and Translations

Amongst the Muslim and Ezhava communities doctors have been central in promoting ideas of progress and reform through education and science, thereby legitimating the superior status of the doctor as a community leader and figurehead. Doctors have become role models, as embodiments of success, which other members of the community should aspire to become. As a result of caste and community reform movements, the doctor has both popularised the aspiration to become a doctor, while cultivating a culture of medical dependency on the doctor in the construction of modern identities. Both communities constitute a significant part of the new consuming classes as successful businessmen and through Gulf migration. Thus spending on health care has been an important priority for these two groups.[80] The call for reform has therefore legitimated the authority of the doctor, while creating a dichotomy between expert knowledge and lay ignorance (Srivastava 1998, Quah 1989). This is reflected in the ways that people talk about a particular doctor as having good knowledge *(nalle vivarmullla docktor).* Judging the doctor's knowledge through abstract forms e.g. qualification, the total number of patients seen, are therefore important criteria, guiding treatment seeking behaviour. The specificity of the knowledge and healing powers attributed to particular doctors have therefore further emphasised an individualistic model of professional powers.

As healers, doctors have assumed the role of omnipotent and authoritative physicians, in part drawing from indigenous framings of the doctor-patient relationship. Doctors are expected to know what is wrong with the patient and the patient is expected to submit themselves to the expert authority of the doctor. By accepting professional authority, in return society has expected the doctor to exhibit exemplary moral virtue in all aspects of life, necessary to assist their work as healers (Von Schmädel and Hochkirchen 2001, Socrates, cited in Callahan and Wasunna 2006:16). As guardians of esoteric scientific knowledge, the medical profession have acted instrumentally to create belief in the omnipotence of the doctor, thereby increasing the social acceptance of western medicine (Carstairs 1955, Marriott 1955, Von Schmädel and Hochkirchen 2001). In a context where doctors and patients have not shared the same philosophical basis for healing, doctors have mystified medicine through material, symbolic and performative mediations. Commodities have been central to communicate across difference, as symbols of healing power (e.g. stethoscopes, blood pressure

[80] The thesis focuses on the Muslim community, as the community spending most money on health care.

machines, injections), through which patients can judge the quality of services provided by doctors, alongside the interiors of clinics, technologies and charges, signifying both the quality of services and indicators of the wealth of the doctor, who has earned a good income from treating many patients. Therefore paradoxically although doctors receive criticism as being 'money minded' (Kamat 1995), wealth and more luxurious clinical settings are important indicators of the healing abilities of doctors.

In South Asia, many patients differentiate one doctor's capability from another as a gift of healing, 'the power of the hand,' or a 'practitioner's personal capacity to heal a patient' (Nichter and Nordstrom 1989:369, Menon 2002). In contrast to biomedicine's claims to universal science, embodied in inorganic materials, in Kerala the particular attributes of individual physicians and the knowledge of the doctor are the basis for a successful medical practice. For the lay population, the doctor who has seen the 'maximum number of cases' is the doctor with the best knowledge. Higher professional qualifications are also an important way in which the knowledge of the doctor and thus the quality of his services can be judged. This has created significant hierarchies within the profession, as people flock to certain doctors. Amongst the medical profession this has been a further dynamic perpetuating an individualistic model of medical practice, creating a competitive environment within which individual doctors attempt to build successful careers in medicine.

For the lay population, by virtue of the relationship between sickness, healing and morality, amongst less educated sections of the lay population doctors are still regarded as 'demi-gods' - as mediators between man and God in times of uncertainty. Similarly, the role of God has also been important for doctors to defer responsibility in times of uncertainty, deflecting responsibility from the doctor if things go wrong. The power/knowledge of the doctor thus has important sacred dimensions. The term '*kaipunyam*' (luck of the hand) is no longer used in the urban context, a shift further accelerated by the rise of technology, which speaks to people directly of the power of universal science and western modernity. However rather than freeing medical power from the control of particular doctors towards a universalistic view of science and technologies, doctors play a crucial role, as operators of machines, as mediators between patients and powerful technologies.

For doctors, induction into the medical profession has also been assisted by the appropriation of symbols and objects. From the first days in medical college, doctors start the process of seeing themselves as something other – wearing the white coat and stethoscope in order to inculcate themselves into the medical habitus (Sinclair 2007). Although times are changing, the medical profession still holds onto vestiges of medicine as the 'divine and noble' profession. However, many middle aged and younger doctors working in private hospitals are starting to reject this status, preferring suits and ties rather than white coats. Among doctors from the Muslim and *Thiyya* community, because society has treated doctors from backward communities with so much respect, some find the attention uncomfortable, because it comes with the expectation of having to behave in a superior manner, and some feel the respect is not justified – they are just ordinary people doing a job, despite the enduring respect given by society to doctors. Doctors from forward caste groups, those with a family background in medicine and those from medical college appear more comfortable with flattery and playing the role of the omnipotent physician, although identities vary according to the age and the extent to which doctors work as technicians with technologies.

Most doctors assume a professional identity of superiority, justified by the fact that they have studied medicine for so many years. This is reflected in public discourse that patient's adopt the medical terminology, that people have diseases rather than illnesses. Thus the 'expert' view of medicine is generally viewed as the only legitimate form of knowledge because doctors have spent so much time acquiring this knowledge. It is common for doctors to say that medicine is a 'vast field of knowledge.' Younger doctors in particular stress that it is so large 'that no-one can master.' In turn, doctors reason, 'how can a common person understand?' Thus a strong model of medical dominance is legitimated by the fact that doctors know medicine and common people are not capable of understanding such complex matters. Although doctors are frustrated that lay people have different beliefs about healing, doctors have not attempted to educate people about modern medicine. Instead doctors expect patients to unquestioningly submit their bodies to the expert care of the doctor because of their superior knowledge.

Machines are shifting medical power away from the doctor, valued by patients because they are endowed with the capability of seeing into the body, to produce objective truth-values, through which doctors can 'come to know disease'. At the

same time, technologies have become a new form of enchantment, directly marketed to consumers by institutions, and central to the popularity of 'super-speciality' hospitals. For the first time, medical knowledge/power is being freed from the overt control of doctors - through the diffusion of powerful technologies, the media and health magazines, as patients can now come to know more about disease and treatment modalities. In western contexts critics have argued the diffusion of medical knowledge has led to new forms of consumer-driven medicalisation, as the media, the Internet and the marketing strategies of health care companies play a greater role in shaping knowledge and awareness of different diseases and treatment modalities. While this has been analysed as a challenge to medical dominance (Williams and Calnan 1996, Lupton 1997a, Hardy 2001, Prior 2003, Fox et al. 2005), in Kerala the wider diffusion of medical knowledge has been authored by the medical profession, as experts in matters of health, healing and social problems. Therefore, although patients have been re-skilled with more knowledge to ask questions of their doctors, new knowledge and the media have created new anxieties, further re-enforcing the necessity of dependency on doctors as experts, rather than encouraging self-care or a non-medicalised view of problems.

Implications and Conclusions

In western contexts the medicalisation of society was associated with the diminution of religion and faith in science, rationality and progress (Conrad 2007). In Kerala, although the spectacle of modern technologies has been important in shaping belief in science and progress, belief in religion, science and morality converge as sources of healing power. Thus processes of social intermediation remain important as global science and technologies are accepted into local lifeworlds in the hands of powerful local doctors. As Prakash (1999:8) argues, the project of legitimising science in India was one that attempted to erase the coloniser/colonised binary by indigenising science, through the formation of a western-educated elite, to straddle the west/east binary, and in the process undoing the opposition between science and magic. The project of acceptance thus depended upon the role of elites as social intermediators and the impressive displays of modern science, affecting both patients and doctors. Prakash (1999:31) argues,

> "The project of colonial pedagogy required the 'unlearned' Indian whose education could be accomplished only by repeated visual confrontations with scientific knowledge embodied in objects. But addressing and reforming the

eyes of such viewers demanded that science express itself as magic, that it dazzles superstition into understanding."

Rather than translating modern medical knowledge into local lifeworlds, doctors have maintained control of expert knowledge continually reinforced in the public sphere through hierarchies in education, qualifications, commodities and medical language mystifying the intelligibility of modern science to the 'common man.' This has limited the extent to which people understand modern medicine, creating dependency on doctors as experts and mediators between the spectacle of modern science and personal health problems. However the extent to which medical authority and technologies are accepted uncritically has become a matter of dispute, particularly for the middle classes. These themes are further developed in Chapter 7 on the doctor patient relationship. The next chapter examines the importance of health care industry to Kerala's recent development experiences.

Chapter 4:
Health Care Transitions in Kerala:
From Model of 'Low Cost' to Liberalisation and Migration

As Devika (2007:4) observes in the post-independence period, people in Kerala have come together in the name of 'development', as a catchall term for economic growth, social welfare, and the socialistic redistribution of resources. As illustrated in Chapter 3, western medicine and education flourished in the state from the early colonial period onwards, reflecting Kerala's unique social, historical and cultural experiences. However in the late 1970s and 1980s, interest in Kerala re-emerged, as the state became known internationally as a 'model of development' for achievements of 'good health at low cost' (e.g. Halstead et al. 1985, Kumar 1993, Franke and Chasin 1994, George 2005a). The paradox was that despite low figures for per capita income, at around one per cent of some of the wealthiest countries, indicators for life expectancy and measures of social development approached those found in developed countries. For example in 2000, life expectancy at birth was 73 years, compared to 77 years in the United States (cf all India average 62). Infant mortality rates were 14 per 1000 live births compared with 7 per 1000 for the USA (cf all India average of 85).[81] Yet in Kerala, per capita expenditure on health care was only US$28, compared to US$3925 in the United States (Thankappan 2001).

The comparison reflects the state's ambitious attitudes towards development, where progress is measured against the achievements of the industrialised world rather than other areas of India or the developing world (see also Devika 2007). However, the comparison misguidedly assumes a direct correlation between per capita health expenditure and public health outcomes, and the necessity of industrialisation to improve health outcomes. For example, Kerala's achievements without industrialisation or urbanisation have averted the incidence of urban poverty and associated health problems, which have lead to the growth of large slums in other parts of India. However low levels of industrialisation and the lack of job opportunities have made the state's ambitious programmes for social expenditure on health and education unsustainable over the longer-term (Kutty 2000, Abraham 2004, George and Nair 2004, Prakash 2004). Alongside Gulf migration, Kerala's model of social development based on state expenditure

[81] All India figures taken from http://www.who.int/whosis/mort/profiles/mort_searo_ind_india.pdf. Accessed 23th July 2009.

on education and health care has been transformed into Kerala's basis for economic development. This chapter examines how the paradox of 'economic backwardness' has been transformed into a model of development based on the expansion of the social sectors, in private health and education. It explores Kerala's new model of economic development through migration and investment in human capital (in doctors and nurses), the impact of migration on local ecologies of health, the factors precipitating the rising cost of health care, and the transformation of the medical profession from cultural elites to entrepreneurs.

State Expansion and the Local Medical College

In the post-independence period, Kerala was distinguished from other states in India for its achievements in health and education, resulting from its strong programme of redistributive justice, which reduced absolute levels of poverty and secured the basic living requirements of most sections of the population (Soman and Panikkar 1984, Tharamangalam 1998, George and Nair 2004). Even before the Communist Party was elected to power in 1957, the death rate in Travancore and Cochin had fallen to levels comparable to Sweden and France a decade before. However unemployment and inadequate nutrition limited further gains (Panikar and Soman 1984:47). Through an extensive public distribution system covering 96 per cent of the population and radical land reforms, life expectancy further increased by 14 years to an average of 61 between 1961-1970. In addition to public health interventions and populist campaigns to reduce family size (Zachariah and Rajan 1997, Devika 2002), the government prioritised spending on the social sectors, allocating 25 per cent of state expenditure to education and 15 per cent to health care (15 per cent) (Thankappan 2001).

From 1957 onwards, the state built an extensive public health care system of primary, secondary and tertiary level institutions. The public system consists of six medical colleges, acting as regional medical centres and providing medical education to a total annual intake of 850 MBBS students.[82] The secondary level is an extensive network of district and *taluk* hospitals, while the primary level consists of community health centres, primary health centres and sub-centres distributed across each district and *panchayat* of the state.[83] Government medical colleges were the most prestigious institutions in terms of medical expertise, and the dominant providers of more specialist interventions, exceeding the capabilities of small nursing homes which constituted the private sector until

[82] MBBS (Batchelor of Medicine, Batchelor of Surgery) is the basic medical degree in India and the UK.

[83] *Taluk* and *Panchayat* are administrative divisions.

the early 1980s. The local medical college was founded in 1957, rapidly expanding to become a 2,000-bed institution, as new facilities were successively added – an Institute for Maternal and Child Health, a Cancer Institute, a casualty block, artificial limb centre, chest hospital, nursing college, pharmacy and dental services, with an annual intake of 200 undergraduates and several seats in each post-graduate specialism. In 1995 medical college hospitals received 32 per cent of the state's health budget (Sadanandan 2001). Thus a considerable gap has emerged between the resourcing and usage of medical colleges versus other health facilities. Consequently medical colleges are over-burdened with patients as higher centres, which are better resourced compared to other institutions, reflecting and reinforcing patient preferences for higher centres.

Government spending on health care has not increased in real terms since the 1970s with the exception of salaries (Kutty 2000). During the early 1980s, the private sector became the dominant provider of hospital-based care when fiscal crises prevented further investment. From a spending level of 11.7 per cent of State Domestic Product (SDP) on health and family welfare in 1983-84, budget shares have steadily fallen to 6.4 per cent of SDP in 2005-06 (Oommen 2008). Meanwhile from 1986 to 1996, there was a 40 per cent increase in beds in the private sector and by 1996 private beds out-numbered the public sector by almost two to one (Kutty 2000). In Malabar, the best medical expertise and specialist capabilities remained in the public sector until the mid-1990s when the first super-speciality hospital was established in the area. However, even before the expansion of super-speciality hospitals, survey data from across Kerala found that only 23 per cent of households regularly used government facilities. In the poorest stratum this share was as low as 33 per cent, declining steadily to 8 per cent among the most affluent households (Kannan et al. 1991). Similarly in 2006, survey data found in 77 per cent of illness cases, treatment is sought from private sector facilities (Levesque et al. 2006). Thus in the treatment of everyday illnesses it appears that a shift between the public and private sector has not occurred over the last twenty years, in part reflecting the importance of the private practice of doctors. However because of the high costs of admission to private hospitals more demand is placed on government institutions for residential care (Dilip 2008).

For birth, preferences have notably shifted to the private sector. For example in 1987, 41 per cent gave birth in a private sector hospital, compared to 58 per cent in 1996 (Kunhikannan and Aravindan 2000:27). Although studies emphasise

poor standards, staff attitudes, lack of equipments and low levels of satisfaction amongst patients using government services as reasons for preferences for the private sector (Kannan et al. 1991, Osella and Osella 2000, George and Nair 2004, George 2005a, Gangadharan 2005, Aravindan et al. 2006, Levesque et al. 2006, Jeffery and Jeffery 2008), in the fieldwork site, there is strong public support for the government medical college, despite over-crowding, poor infrastructure and limited supplies. The government medical college was the first large-scale institution to provide health care in the area and is still four times larger than any private hospital. Thus for almost forty years the college has provided what was seen as the best care, at least in terms of public perceptions of medical expertise.

Amongst the poor and many members of the middle class, support demonstrates an ideological commitment toward government provision, and higher levels of trust in the non-profit sector (Jeffery and Jeffery 2008). The college is used by members of the lower to lower-middle class living in surrounding areas for minor and more serious problems. Some middle class patients come to the medical college with unresolved health care problems if treatment from private hospitals has failed.[84] Many women from the lower middle class (Hindu community) prefer to give birth in medical college (e.g. even some white collar government bureaucrats) because of the doctors, although the rising cost of private medical care is also a possible but under-stated factor.[85] In life-threatening cases when private hospitals are unwilling to admit cases, the college provides an important function as provider of last resort. In the periphery, doctors will refer patients to the medical college or a private hospital, depending on the income of patients. While the private sector can choose the patients it admits to its care, ultimate responsibility for care lies in the hands of the government sector.

[84] Three middle class respondents eagerly reported stories where a private doctor and their tests had failed to resolve the problem, to deliberately undermine the private sector. For example, a young film director in his thirties told me about his friend's child who took sick at the age of 18 months. ' The doctors did all their tests and made their reports, but there was no improvement. Then he took the baby to medical college and the doctor gave him three tablets and he was fine. There are so many cases like that.'

[85] Based on interview data with forty women. Those from lower middle class backgrounds from the Hindu community had all given birth in the medical college or the local government maternity hospital. In local discourse, people say the local medical college has the maximum number of deliveries in the whole of Asia. Some other middle class women also gave birth in the medical college because of perceptions that the best doctors are there. For example, a female gynaecologist told me how she had decided to give birth in medical college, because her 'Madam' was there to look after her. The private sector is preferred by Gulf migrants and other members of the middle class.

Through public-private finance initiatives, the medical college has continued to invest in new technologies, although priorities have mirrored patterns of development in the private sector - such as the opening of a new super-speciality block and the recent purchase of an MRI machine.[86] However, given the cost of technological inputs, raised through private finance, the extent to which the government sector can provide services at significantly reduced rates varies considerably. For example, outpatient tickets are only Rs 1 (compared to a minimum of Rs 30-50 in private sector) and Rs 3 (compared to Rs 5000 for a basic private hospital delivery). However survey data indicates for hospital-based care, the average out of pocket expenditure per hospitalisation episode was Rs 2,272 ($45) in a public hospital, compared to Rs 4,950 ($99) in a private hospital (NSSO 2006 cited in Dilip 2008). For dialysis or angiograms the cost of the public sector is approx. 70 per cent of charges in the private sector although there are huge disparities in the quality of services between the best private hospitals and the government sector.[87] Several middle class dialysis patients raised concerns about the standards of hygiene in public sector facilities as the most important reason for not using the government sector.

In the main building of the medical college, patients frequently have to lie in the corridors with drips in their arms due to a lack of bed space.[88] Doctors in outpatient clinics work through huge volumes of patients and shortages in basic equipment. Several respondents noted they had to buy simple items such as gloves and medicines, but did so without complaint. In the hospital wards one nurse may have to look after 140 patients.[89] Despite limitations, services are still used by people from the lower to-lower-middle class, some of whom could afford private sector treatment and the college functions to the best of its ability under considerable strain. The institution has a mixed economy between public and private facilities (e.g. pay wards), access to interventional care through government doctors working privately (e.g. for surgeries or deliveries), and charges for basic supplies. However the mixed economy and poor physical

[86] See Nayar and Nair (2006:46) for a full review of the privatisation of health services, which they argue have focused on clinical and techno-managerial interventions. Although the new super- speciality block has only recently been opened, according to local doctors at the medical college, the expansion was first planned last twenty-five years ago.
[87] Based on interviews with doctors from the medical college, newspaper reporting of charges and interviews with two dialysis patients (private sector) and two cardiology patients (one in private hospital and the other in the government medical college).
[88] See Economic and Political Weekly Editorial (2007): 1796-97 for a recent critique of conditions in the government sector. The Minister for Health is currently under court investigation over the 38 infant deaths in government facilities.
[89] Based on interviews with several medical college students.

infrastructure does not undermine the legitimacy of the state in providing health care.

The over-crowding of medical colleges reflects the weak government infrastructure at lower levels. This reflects consumer values – belief medical college are the best doctors and resourcing problems at lower levels. The values of consumers shape health care seeking behaviour across the state and private sectors, reflecting people's preferences to go to higher centres. Tertiary referral hospitals are commonly used for primary care purposes, in the treatment of everyday ailments such as coughs and headaches.[90] Local residents are allowed to use the college for simple problems. However patients from periphery areas are supposed to be referred, although the system is difficult to enforce.[91]

Marketisation and the Government Sector

The new super-speciality block is a huge ten-storey building painted green like the new corporate hospital. The interior space is a hollow atrium, and on the upper floors a thin corridor of rooms, skirts around the inside of the building. At present services are only available on the ground floor where the floor space is filled with lines of plastic red seats. Patients can sit comfortably and wait for their consultation as a new ticketing system has been introduced, and a large LED screen displays patient numbers. In practical terms, the state's expansion into super-speciality medicine competes with the private sector in the most prestigious areas of medicine, without providing significant cost savings for the paying public, while services for the poor who depend on the college are sub-standard. However the ongoing expansion of the government college is widely supported by government doctors and the general public.

The new institution implies the state is keeping abreast of developments in the private sector, thus performing patronage, re-creating the 'myth of the state', as a guarantor maintaining social justice (Hansen 2001:32). It provides an illusion the state is strengthening in the mind's eye of the public. Despite successive budget cuts in health care the state is able to display prowess, enhancing visibility as a modernising force, reinforcing the perception the state is also improving and 'upgrading' while doing little to improve the standards of care available to large volumes of poor patients, and to the detriment of interventions to improve public health. As the government focuses on tertiary care, this is not a paradigm shift,

[90] Based on observations in different hospitals.
[91] Based on interviews with doctors in the government sector.

but a further example of hierarchies and privatisation in the state sector, following on from the provision of private wards and technologies on a cost recovery basis.

The example illustrates the ways in which elite perceptions of need (doctors and politicians) shape the provision of welfare services across the public and private sector – as services focus on buildings, technologies and specialisation, and as emergency medicine and public health are ignored. Although government facilities are being upgraded, over-crowding, inadequate staffing levels, the basic maintenance of facilities (e.g. sufficient beds, hygiene), and supplies are problematic in other areas of the hospital. In public health, the problem of communicable diseases such as acute respiratory infections, tuberculosis, filariasis, diarrhoea and rat fever (leptospirosis) have shown considerable increases between 1995-2000 (Nayar and Nair 2006). Kerala is also vulnerable to outbreaks of viral fevers such as chickun gunia and dengue fever. Basic rubbish disposal is highly problematic, and the sanitary disposal of biomedical waste an unresolved yet controversial issue, as the state attempts to regulate private hospitals. Kerala's relatively strong foundations in public health are being shaken, as concrete symbols of growth, development and 'progress' overshadow more effective health policy interventions.

Amongst concerned young medical students, doctors and members of the upper-middle classes, conditions in the medical college are commonly described as 'pathetic,' although this discourse is generally restricted to elites. There is also wider antipathy the government is no longer providing (Jeffery and Jeffery 2008). However collectivist attitudes pervade towards the medical college - to make do, for patients to pay for services from the state or from the dense concentrations of diagnostic laboratories, scanning centres and pharmacies surrounding the college; and to refurbish wards through sponsorship by local businesses. In one of the most expansive welfare states in the developing world, the state retains considerable legitimacy (Hansen 2001, Jeffery and Jeffery 2008), despite failings, cost recovery mechanisms and the rapid expansion of the private health care. In public discourse criticisms of the medical college are constrained, reflecting willing acceptance of lower quality of facilities, strong belief in government doctors and the state as a trusted provider of health care.[92] Positive opinions of the state sector are contrasted to a greater willingness to narrate poor experiences in the

[92] The opinions expressed are primarily those of the middle class and lower middle class. More interviews would be required with BPL households to gain further insights on lay perceptions of the government sector.

private sector and to criticise private hospitals (Jeffery and Jeffery 2008). The following section examines the paradigm shift in the Kerala model, as state led development cedes to migration and private sector development.

The Kerala Model for Growth

Kerala has had one of the most equitable health systems in India (Krishnan 2000, Peters et al 2002, Mahal et al. 2002). Since the late 1970s, remittances from Gulf migration have transformed economy and society, dramatically improving the living standards of households benefiting from remittances. However increased affluence has also increased relative poverty and the reproduction of inequalities, as the cost of living increases, and the rising ambitions of the middle classes transform people's ideas of the 'good life.' While social reforms made Kerala the most equitable region in India, economic reforms and migration are threatening the model, as increased ambitions improve the fortunes of some. As a result of transitions, Kerala's gini coefficient increased to 41 per cent in 2005, second only to Chhattisgarh at 44 per cent (Oommen 2008).[93] The remainder of this chapter examines the ways in which economic reforms and migration have transformed the local ecology and economy of health care.

Gulf migration and the Private Health System

It was noted in Chatper 1, each state government has to a greater or lesser extent has developed strategies to attract international capital and promote industrial growth (Upadhya 2004, Rajan 2006, Biao 2006). Kerala's ability to develop other knowledge or out-sourcing industries has been limited, in part because of its reputation for industrial action (Heller 1999, Rajesh 2004).[94] Between 1970- 1986, per capita income increased by only 4 per cent compared to a growth rate of 26 per cent for the rest of India (George 2005a). [95] Tourism and traditional industries such as coir, tea, coffee, pepper, spices, rubber, and coconuts are central to the export economy and the state's natural rather than high tech image.[96] People from Kerala have generally moved to take advantage of new economic opportunities within the state, the rest of India and overseas (see Osella and Osella 2000:76 for a review). As an ancient trading route, Kerala

[93] The gini co-efficient is a measure of income inequality ranging between a value of 0 (indicating total income is equally shared by everyone) to 1 (indicating one person receives the total income). These figures compare the income of the top decline to the bottom decile.

[94] In Kerala, daily life is frequently interrupted by 'hartals' or 'bandhs', which regularly close down businesses and schools across the state for the day (see Lukose 2005).

[95] Maharasthtra, Gujarat and Tamil Nadu account for 40 per cent of the share in the number of factories and people employed in industry in India (Rajesh 2004).

[96] Refer to Government of Kerala website. www.kerala.gov.in

has a long history of trade and migration connections to the Gulf, particularly strong in Malabar, where many Arab merchants settled and married women from the area. During the 1970s trade flows reversed as Arab merchants, who came to Kerala to purchase primary commodities such as timber and spices halted and people from Kerala began migrating to the Gulf to take advantages of opportunities resulting from the oil boom (Osella and Osella 2007). Currently, 2.19 million people from Kerala work in the Gulf, while remittances have financed the expansion of domestic consumer industries (Zachariah and Rajan 2008).

Gulf migration currently affects 17 per cent of households and accounts for 22 per cent of state GDP (Rajan and Zachariah 2007). Migration has alleviated unemployment across all social classes, providing new opportunities for elite and small businessmen, professionals, petty traders, shop assistants, drivers and manual labourers. However, two-thirds of migrants are technically unskilled (Zachariah et al. 2003). More than 50 per cent of migrants are from the Muslim community, 13 per cent Ezhavas (*Thiyyas*), 12 per cent Syrian Christians, and 8 per cent Nayars. Scheduled Castes and Scheduled Tribes account for only 1.4 per cent (Zachariah et al. 2003). Nurses, engineers, doctors, businessmen, office workers and manual labourers are now Kerala's major exports to other parts of India, the Gulf and Anglophone countries.

Zachariah et al. (2001:63) argue migration has been the single most dynamic factor in the otherwise dismal economic scenario in Kerala, contributing more to poverty alleviation than any other factor including agrarian reforms, trade union activities and social welfare legislation. Gulf migration has transformed the fortunes of previously relatively impoverished families, particularly from the Muslim community. Although the Gulf migrant population are perceived as affluent, in the case of a manual labourer, salaries maybe as low as Rs 10,000 per month and many spend time unemployed while looking for work. Contracts are short-term, visas and flights expensive, negotiations with agencies difficult, that the lives of many migrants are precarious (Osella and Osella 2000:78). However the public face of Gulf migration in Kerala - of conspicuous consumption and large houses of similar proportions to those of many doctors, masks the differing fortunes of the migrant population, while raising general perceptions of affluence and consumption. While some hospitals have been marketed to Gulf migrants as sites of luxury consumption, demand for health care has significantly increased as result of the rising incidence of so-called 'lifestyle' diseases.

From 'Good Health at Low Cost' to Luxury, Morbidity and Mortality

On the roadside leading away from the local airport, the dense thickets of advertising hoardings speak of the consumer boom sparked by 'Gulf money' that has flooded into the area over the last twenty years. The images of modern high-rise apartment blocks, local hotels, bakery shops, beautiful women decked in gold, models wearing the latest male and female fashions adorn the roadside. As the road twists, along the side of an uncultivated paddy field, two hoardings for leading private hospitals come into view. In bold, quacking red letters one reads "HEART ATTACK? Put your heart in the safest hands."

Next to it, a man is pictured relaxing with a magazine as his wife plays with the children, at the side of his hospital bed. The slogan reads "Some call it a hospital, others call it home – welcome home."

The images reflect the two sides of the Gulf boom and health care - of the hospital as an attractive modern space in which one can relax and spend time with relatives while lying in the comfort of a 'five star' hospital. On the other hand, the 'good life' of newfound affluence and increased consumption has been tinged by the fear of heart attacks - most common amongst male Gulf migrants, reflecting the new pleasures and stresses of life between Kerala and the Gulf. Annually there are 150,000 heart attacks per year, equivalent to 0.5 per cent of the population (Cardiology Society of India, Kerala Chapter).[97]

Kerala has the highest reported levels of morbidity in India. The prevalence of Type II diabetes is 16 per cent (Kutty et al. 1999) and cardiovascular disease, 20 per cent (Sugathan et al. 2008). Obesity, high blood pressure, cholesterol and diabetes are becoming more common in people in their late twenties and early thirties. According to the National Family Health Survey, 30 per cent of women and 24 per cent of men in Kerala are obese (NFHS-3 2005-06). Prevalence of high cholesterol is over 50 per cent for males and over 60 per cent for females (Cardiology Society of India, Kerala Chapter). The treatment of poorly controlled BP, 'sugar' and cholesterol forms a significant part of the everyday caseload of general physicians and cardiologists, signaling a new era in medicine compared to

[97] Available at http://www.csikerala.org/acsregistry.php, Accessed 15th March 2009.

older generations of physicians, who spent their working lives treating diseases of under-nutrition and poverty.[98]

Prevalence rates are highest amongst Gulf migrants and their families. However, across different communities, chronic illness has become the most significant and common health problem.[99] Food habits have changed as the volume of rice, meat, fish, fried food, and snacks have generally increased. Across the city, new bakery stores and fast food outlets have mushroomed alongside private hospitals. The number of public functions and lavish marriages have increased the frequency people across different communities eat the local signature dish *biriyani,* a ghee-based rice preparation. More generally, food has been an important area of spending, to nourish good social relationships (Osella 2009), as a source of pleasure, 'health' and happiness. At the same time, anxieties about heart attacks have increased as more men from the Muslim community in particular suddenly suffer or die from 'attacks.' Poorly controlled diabetes is one of the most important health problems, leading to complex health problems and high levels of dependency on doctors because it can affect all systems of the body – eyes, kidney, cardiovascular and nervous system. Another common health problem for which people shop between different providers is 'stones' (*kallu*), often requiring surgical interventions, although patients often do not want to undergo surgery.

Spending on health care has been an important way to express love and care, and to receive attention from relatives and other family members, as a moral duty and leisure activity. For the families of Gulf migrants from rural areas in particular, consultations in hospitals are combined with visits to local hotels for food and shopping, as a legitimate excuse for a day trip out. Therefore while many prioritise convenience for the treatment of everyday illnesses from local doctors or nearby hospitals (Evans and Lambert 1997), consumerism is highest amongst Gulf migrants, housewives and the elderly as a means of accessing household resources, care and as an excuse to travel. The tendency to seek treatment immediately from a doctor is also viewed as the correct action to take in the event of any illness, accentuated by high levels of health anxiety (further discussed in Chapter 7). According to the NSS survey (60th round), morbidity rates in Kerala are 26 per cent compared to an all India average of 8.8 per cent (reported in two weeks prior to the survey). The health system is highly

[98] However research also indicates the relationship between poverty, under-nutrition and the later onset of heart disease in adulthood (WHO 2001).
[99] Based on interviews with general physicians, cardiologists and observations in private hospitals.

accessible, with facilitities available throughout the city, and appointments only necessary in order to consult doctors privately.

In a consumer driven market for health care, the industry has been important in fashioning demand for modern medical care. However it is important to distinguish between demand, implying agency; demand as the result of high levels of fear and anxiety; and dependency, reflecting the necessity of consumption when people are living with serious morbid conditions. As 'people go running to the doctor,' for everyday illnesses, this reflects low tolerance for symptoms (Nichter 1996:202), and fear of serious fevers or other diseases. With the exception of middle-aged women, and the elderly who generally prefer home remedies, men and young people will tend not to suffer a cold or flu without purchasing modern medicines (if people have less time) or by consulting a doctor.[100] Consulting a doctor is the normative response to feelings of being unwell. Women reported if children are unwell, they are even more likely to go running to the doctor to alleviate anxieties. Several poor housewives said they economise, that health expenditure should be prioritised on children and men because they have to work and go to school.

The Problem: 'Mediflation' and health inequalities

Across India, survey data reveals health-related expenditures are associated with between 60-74 per cent of all descents into poverty (Krishna 2004, 2006). In Kerala, data shows the poorest households spend over 40 per cent of their income on health care (Kunhikannan and Aravindan 2000). Locally, the term 'mediflation' has been widely used to capture transitions. The most recent KSSP study (2006:106)[101] found per capita medical expenditure was Rs 1,722 ($34) for 2004 compared to Rs 549 for 1996 and Rs 89 for 1987 – more than a 200 per cent increase in ten years.[102] For the treatment of a common cold, a local economist estimated costs have increased ten-fold over the last ten years - due to rising consultation fees and the prescription of more expensive medications. In 2004, the percentage of people paying inpatient care costs exceeding the total annual income of households was 11.3 percent (Dilip 2008). For birth, middle class families spend in the region of Rs 16,000 ($320) for normal delivery or Rs

[100] Based on observations from doctors surgeries, and forty interviews with men and women on basic health care seeking behaviour.
[101] Kerala Sasthra Sahithya Parishad (Refer to glossary for further details).
[102] These figures on per capita spending appear modest compared to data obtained from hospitals, doctors and patients on the cost of a variety of health services in the Malabar region. Refer for example to figures above for delivery expenditures and consultations. Refer also to Chapter 6 on health expenditures associated with the consumption of diagnostic scans.

22,000 ($440) for caesarean sections. Poor or lower middle class households using government facilities spend approximately Rs 4,000 ($80) including the cost of medicines and scans before delivery. For antenatal appointments it is common for women to pay Rs 200 ($4) per consultation for an average of 9 consultations per pregnancy.[103] Both the cost and the extent of medical interventions recommended by doctors has increased, indicating high levels of supplier-induced demand as the principle of economism shifts towards an interventionist approach to medical care.

Taking the example of doctor's rising outpatient consultation fees, it can be argued doctors set fees according to the level of what the market can bear.[104] For example, basic consultations with an infertility specialist, (an important area for private sector growth) are around Rs 2,500 including some basic tests. Market valuations take into consideration the value of the service to paying customers. For pregnancy care or child health, people are least willing to economise and consultation fees of Rs 200 for a private doctor are relatively high, for what is seen as a necessary service. The fees set by doctors are understood to be indications of the value of services, thus increasing upward pressure on costs because consumers can interpret this as an indication of the doctor's knowledge. There is also a considerable amount of competition amongst doctors about consultation fees, and doctors gossip about how much different physicians charge and the number of patients visiting different doctors.[105]

In this context, charging more is 'rational' strategy, which can be reinforced through embellishments to the doctor's private consultation room – through television screens, air-conditioning and computers, to reinforce ideas of quality.[106] Several doctors told me that if you charge Rs 30 (an average rural consultation fee) people will think the doctor is no good, and therefore people come to expect higher charges in the urban set-up, where more qualified doctors are available. In the urban context, private consultation fees vary between Rs 100 to Rs 250 ($2-5), compared to a basic consultation fee in a super-speciality hospital of Rs 100-170 ($2-3). Therefore consulting a doctor privately outside a hospital can be more expensive, and regarded by doctors in particular, as a more personalised

[103] Based on interview data with forty women on pregnancy care. The consultation fee is based on the charges of the private practices of doctors from medical college.
[104] The maximum rate for a private consultation fee in Malabar is approximately Rs 250. This is approximately half the charges of top consultants in Chennai (according to local doctors) and one patient from Kerala living in Chennai.
[105] I asked only one doctor how much he charged for private consultations but he was unwilling to say, because it is perceived as a measure of the success of a doctor.
[106] Based on interviews with several doctors in general medicine.

form of service. The fees set by doctors thus responds to the logic set by a competitive marketplace. Several respondents also compared their fees to other service providers such as barbers, who may also charge Rs 50 for an appointment, feeling that patients to not appreciate the knowledge and education of doctors relative to other service providers because the patient can only see the doctor writing a prescription with a pen on a piece of paper.

Compared to the physician of yesteryear, the relative income of many doctors has declined significantly. The doctor is widely remembered and associated with the motor car, as one of the first members of local communities, who could afford a vehicle. Nowadays, cars and large SUVs are commonly owned by successful Gulf migrants and other members of the middle class. In the 1950s, a doctor charged Rs 2 to 4, and a successful doctor would make at least Rs 100 from seeing private clients in one evening session. By comparison, the income of a senior civil servant at that time was Rs 150 per month, whereas the doctor would earn Rs 3,500. At that time an old Model T. Ford cost Rs 1,000 whereas a new Morris Minor was Rs 5,500 (Rajasekharan Nair 2001:17). Like most members of the middle class, mid-ranking consultants take out a loan to finance a new car, while the owners of private hospitals and smaller clinics can afford the latest Mercedes Benz or BMW – a common topic for discussion amongst doctors, as a symbol of success.

A more significant factor driving the high cost of medical care is the dependence of doctors and hospitals on internationally branded pharmaceuticals and machines. Due to the relative expense of foreign technologies, this reinforces the perception of Kerala as a poor country in which doctors are contrained in providing the best care. Doctors are becoming less inclined to use cheaper treatment methods and to recommend more expensive interventions as the preferred treatment modality, although advice also reflects the changing skills of doctors (e.g. to perform angiograms). The use of more expensive interventions also reflects doctors' shifting perspective of the world, as new money from the Gulf increases the display of relative affluence, although on a case-by-case basis, doctors are particularly sensitive to the purse of poorer patients (cf Nichter 1996).[107]

[107] Nichter (1996:256) refers to the power of the patient's purse. In Kerala doctors economise, adapting professional values of care according to the patient's purse. Generally the financial aspects of medical care are not fully discussed with patients – in doctors OP clinics finance is only discussed to the extent that the doctor will recommend a particular scan or investigation and then confirm with the patient whether they have the money. In this instance it is the doctor's power over the patient's purse – recommending

Although doctors perceive the quality of internationally branded pharmaceuticals to be higher, Indian pharmaceuticals are more highly regarded than previously, and many doctors are content to prescribe Indian brands, particularly for chronic conditions without feeling quality is being compromised. However the cost of medicines is not ordinarily discussed with patients. Patients also share this value, that more expensive medicines are seen as being of higher quality (Nichter 1996), and some patients may feel dissatisfied, perceiving that cheaper medicines are not as good.[108] Prescribing practices may also vary according to different arrangements doctors have with pharmaceutical companies, which may limit the extent to which doctors vary prescriptions, according to the income of the patient. Some doctors are prone to fetishise the high cost of foreign medical devices e.g. new drugs and injections, reinforcing the power and quality of western technologies. Gossip circulates about the latest expensive new therapies e.g. an anti-arthritic drug for Rs 10,000 ($200), although doctors appreciate such interventions are inappropriate for local conditions. Problems of the prohibitive expense of the latest pharmaceuticals and technological procedures are common to health care systems in the developed and developing world. However in India the meaning of restrictions serves to reinforce global hierarchies of India as a developed country, where expenditure is limited by the income of patients, further magnified through exchange rate differentials.

Private Medicine and Caesarean Sections

Recent research on 'medi-flation' and medicalisation in Kerala has examined the high rates of caesarean sections (Mishra and Ramanathan 2002). In a recent survey of 360 women across major cities in Kerala, caesarean section rates for women in the private sector were 50 per cent (cf 20 per cent in government sector), in comparison to WHO norms of 15 per cent. A recent study found 90 per cent of patients had not discussed the mode of delivery with their gynaecologist and only 15 per cent said they would have had a caesarean by choice had they been asked (George 2002). Women in Kerala prefer natural

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an appropriate treatment and then checking to confirm that the patient has the necessary funds. Patients are aware of the cost of surgeries in advance of admission. In the case of hospitalisations, this is more problematic if the financial aspects of care are not discussed at all, and patients only come to know the cost of care when they are being discharged. See also Chapter 7.

[108] For example, a man told me a story of a patient who had returned to a doctor, complaining that the medicine he had prescribed for Rs 50 had not worked. The doctor phoned the pharmacist and told him to give the patient the same medicine but to charge him Rs 300. The patient apparently phoned the doctor and told him the more expensive medicines had cured his problem straight away. Doctors also tell similar stories that patients feel cheaper medicines do not work as well.

childbirth (Van Hollen 2003), and the use of unanticipated caesareans is a source of controversy and concern. Doctors argue fear of litigation as the main reason for caesarean sections - as an intervention, which reduces risks as deliveries proceed. However critics have argued increased caesarean rates are an important factor contributing to higher maternal mortality rates. While institutional delivery rates are 97 per cent in Kerala, the maternal mortality rate (MMR) is 262 for every 100,000 live births, compared to Sri Lanka, where institutional deliveries are 95 per cent, but the MMR is only 60 (*The Hindu* 2005).[109]

Caesarean sections mean birth can occur within the routinised daily schedule of the hospital and the gynaecologist, while also increasing returns for the hospital (George 2002). From interview data with doctors and patients, if women have been in labour for four hours or the baby's head is too big, unplanned caesarean sections are commonly recommended. More pregnancy cases are being diagnosed as risky before birth, and it is becoming more common for women to take complete bed rest for several months before delivery. Birth is one of the most fearful events in women's lives, but one of the few times when women are alone, as no by-standers are allowed to be present in the delivery room. Several lower-middle class women reported caesarean rates are 50 per cent in the private sector compared to only 10 per cent in the government sector. Alongside 'medi-flation,' caesarean section rates have increased from 13.74 per cent in 1988 to 21.4 percent in 1996 (Thankappan 1999), and are approximately 1.7 times more likely to occur in private health institutions (Padmadas et al. 2000).

As the issue of caesareans has been studied more extensively in Kerala and internationally, as a noted side effect of private medicine (Mishra and Ramanathan 2002, Thankappan 1999, Padmadas et al. 2000, Pai 2000), less attention has been paid to medicalisation resulting from the use of diagnostic technologies, in particular CT, MRI and angiograms (to diagnose coronary artery blockages). Interest in technologies stemmed from initial findings, that a common treatment for a headache had become a consultation with a neurologist and a CT scan. My interests in technologies expanded as objects driving processes of medicalisation, marketisation and health commodification, and in shaping the movement of patients around the health system. The final section of this chapter examines transformations to the medical profession, and the

[109] Dr Thankappan is a researcher at the Achuta Menon Centre for Health Science Studies, Trivandrum, cited in the Hindu newspaper, 24th March 2005.

mechanisms by which doctors have been transformed from cultural elites into the vanguards of capitalist development in India.

The Transformation of the Medical Profession

As the literature review and Chapter 3 demonstrated, the medical profession have played a central role as mediators shaping local engagements with modernity. In the transition from state socialism to fully-fledged capitalism, doctors have utilised their position as intellectuals, by expanding opportunities for investment and accumulation in the new economy. At the same time, members of the aspirant middle classes have demanded greater access to the medical profession, as the most assured route to improve status and income. Doctors and business elites have been able to diversify and invest in medicine, thereby mediating the wider expansion of the health care economy. In the process, many members of the medical profession have become petty and large scale entrepreneurs, investing in human capital (specialist skills), technologies and new facilities. The relaxation of import duties on medical technologies, opportunities for migration, the privatisation of medical education, and the norm of studying for post graduate education have thus increased the potential opportunities, risks, rewards and expectations of a career in medicine – as intersecting dynamics shaping the exponential growth of the health care economy.

Since the government first established a network of medical colleges across the state, the medical profession has successively opened up to wider sections of society. In contrast to previous generations of landowning elites, who entered medicine as a form of social service, medicine has gradually become the principle source of income for the majority of practicing physicians. However, the idea of medicine as the previous preserve and pursuit of the gentlemanly physician is misleading. Throughout the post-independence period doctors were able to make significant amounts of income from medical practice in government service and/or private practice, or as the owners of small nursing homes. However, medicine was initially an important route to status and income within local communities, as many doctors returned to establish practices from their natal homes.

Previously the investment required to become a successful professional was minimal because most worked as MBBS doctors, without the need or societal expectation of post-graduate qualifications. Most doctors acquired qualifications through the state-sponsored system of medical education. As doctors were in

relatively short supply compared to the number of sick patients, competition between doctors was much less, and more doctors were content to return to serve their local community, following graduation from medical college.[110] Before remittances from Gulf migration began to transform the local economy, doctors were distinguished materially and culturally within local communities. However, paradoxically as the amount of money patients have to spend on health care has increased, the status and material distinction of the majority of doctors has declined, while the number of doctors and ambitions to enter the medical profession have steadily increased.

Initially doctors were generally drawn from a small, privileged, wealthy elite. For members of 'backward' communities in particular, access to medical education was and remains as the most important way for families to *achieve* social status through education. As a result of general improvements in the standards of education - wider access to English medium schools and science; and government reservation policies; more members of backward communities have entered the medical profession – becoming elites, who have received a significant amount of respect from their respective communities. For families, who have accumulated income from business and/or migration, marrying a doctor into the family or educating children as doctors, is the most important way households can convert economic capital into the cultural capital of having a doctor in the family.

The *Thiyya* (or *Ezhava*), Muslim and forward Christian communities are the most successful groups in business in the state (Osella and Osella 2000, 2008, 2009). The desire of wealthy families to convert economic capital into the cultural capital of being a doctor has been important in forging the marriage between medicine and business. This has shaped the development of the health care economy as more families with business backgrounds have gained access to the medical profession, who have envisaged the potential to expand the quality and sophistication of health service provision. Several of the largest hospitals in the city have been established by leading business families in the state (e.g. from transport or export businesses), who have married or educated children as doctors, and established hospitals or clinics thereafter. The second most influential group in the new economy is the children of successful doctors, who have generally been able to acquire graduate and post-graduate qualifications in either the state or private system, as the most likely candidates to become super-

[110] Based on interviews with several teachers at medical college, who note the shifting preferences of young doctors for post-graduate specialisation, urban practice or migration, accelerating over the last ten years.

specialists. The privatisation of medical education in other states and now in Kerala, has been important in cementing the relationship between business and medicine, in guaranteeing the wealthy access to basic and further medical qualifications. The children of doctors, (as previously some of the wealthiest members of society), other Gulf and business families have thus been able to acquire the cultural capital of being a doctor, and to use this base to further accumulate skills, wealth and influence in the private health care system. Due to the limited number of places in the government sector for post-graduate training, it is more difficult for doctors to succeed in medicine through excellence in studies, also requiring family finances to fund further education. Therefore access to finance, has become more important for doctors to establish a successful career in medicine.

Although there have been notable changes to the demographic profile of the medical profession, the values of business and accumulation have intensified across the medical profession and wider society. The medical profession has thus become highly differentiated, from the owners of large hospitals, who are attempting to transform the delivery of health care into a globalised industry; famous local doctors who have used their reputation from government service or specialist medical expertise to build successful practices, and to expand business opportunities. Others have become the owners of scanning centres, laboratories or owners of diagnostic facilities within hospitals, as an easier way of generating income from medicine. Given the tendency for patients to flock to particular doctors (further discussed in Chapter 7), this has further increased the attractiveness of capital investments in health service provision, compared to long hours treating patients. The following sections examines the relationship between migration and its impact on the health care economy; and post-graduate qualifications as two other important factors shaping the career trajectories of doctors, and the marketisation of health services.

Medicine and Migration

In total there are approximately 35,000 doctors registered in Kerala and about a further 7,000 working overseas (an additional 16 per cent).[111] This is equivalent to 11 doctors per 10,000 (less than half the coverage of the UK of 23 per 10,000 (WHO 1997), but twice all India figures).[112] Although this might imply Kerala has

[111] Figures provided by local doctors and Indian Medical Association.
[112] WHO Figures for UK available at http://apps.who.int/whosis/database/core/core_select_process.cfm?country=gbr&indicators=healthpersonnel. Accessed 10th June 2009.

an insufficient number of doctors, the figures do not capture rural-urban disparities. In the city, there are approximately 1,000 doctors practicing modern medicine - a physician density close to that for the UK at 20 per 10,000.[113] However, given the fact that doctors treat anywhere between 50 to 200 patients per day, comparative figures for physician density do not adequately reflect the greater accessibility of doctors in India, compared to the UK – although consultations in India are often brief.

Since the British began training native doctors, opportunities for migration have been relatively open to Indian doctors wishing to work in the UK (Visram 1986, Jeffery 1979).[114] Indian doctors have been an important resource to maintain adequate physician numbers in the NHS and many stayed throughout their career (Visram 1986).[115] Working in England was important to continue medical education, to gain British qualifications and status as members of the Royal College of Physicians (Robinson and Carey 2000). Given the poor health status of patients and harsher working conditions for consultants in public sector hospitals, migration was a preferable option, generally open to and considered by elites - to gain skills, experience and easier working conditions. Many doctors migrated during the early stages of their career, returning for the sake of family, to raise children in India and to care for elderly parents.[116]

Although media reports emphasise doctors are returning to India from the United States and United Kingdom for the first time for the sake of professional opportunities (Sachdeva 2007, Mascarenhas 2007, Kanth 2007), it is difficult to discern any notable shift in patterns of elite migration because cyclical migration have long characterised the working lives of doctors from India. Many factors have made life in India more attractive, and those returning have to make fewer sacrifices by doing so, as return migrants have opportunities to set up specialist units. However, the availability of the latest technological set ups, greater opportunities for continuing medical education, the increased size and income of

[113] Nationally the physician to population ratio is 50-60 per 100,000 (Mullan 2006).
[114] However, in 1975 the British General Medical Council ceased to recognise the qualifications of Indian doctors as sufficient to practice medicine in UK (Jeffery 1978).
[115] The studies of doctor migration have either focused on the host country in which case there is a bias towards people who have stayed or in my case, a sample bias of those who have returned or migrate cyclically.
[116] Based on interviews with three consultants who migrated during the 1960s and 1970s and returned soon after, although they had many colleagues who settled.

the middle classes, and the availability of more consumer goods and leisure activities have made life in India more congenial than ever before.[117]

Local Patterns of Migration

The proportion of physicians migrating from India has remained fairly constant at around 10 per cent (Jeffery 1979, Madan 1980, Mullan 2006). Although early physician migration was to the UK, Indian doctors have become more dispersed across Anglophone countries – the United States, Australia, Ireland and Canada (Mullan 2006). The local doctors I met, who had migrated during the 1960s and 1970s spent six to ten years of their careers practicing in England, coming from elite, landowning communities with closer contact and affinity to the colonial administration and British culture. [118] This generation of doctors developed an imagination of England, through schooling and literature, which instilled vivid portraits of the English countryside, lifestyles and decorum of the British, an affinity further reinforced through medical education (Robinson and Carey 2000). These Anglo-British doctors exhibit paternalistic attitudes towards the poor, through their work on plantations and in mission hospitals, thus extending access to western medicine to deprived sections of society. For this generation of wealthy landowners (two Syrian Christians and one Tamil Brahman), medical practice in India was a vocation and not a principle source of income.

Within the British NHS, previously Indian doctors were able to become consultants and as committed members of staff, most were satisfied with their careers (Anwar and Ali 1987, cited in Robinson and Carey: 93). However, from a position of relative post-colonial privilege, Indian doctors have become more disillusioned with their treatment in the NHS. The status of migrant doctors is more precarious and doctors are more frustrated by limited prospects for progression and promotion, although Indian doctors have collectivised to maintain their rights in recognition for long-term service. Many Indian doctors end up training in the least prestigious specialisms such as psychiatry and geriatrics. Rather than career professionals working overseas, Indian doctors have been reconstituted as highly skilled migrants. Although this has created greater career instability, Indian doctors still account for approximately 10 per cent of physicians in the NHS (Robinson and Carey 2000).[119]

[117] Fuller and Narasimhan (2007) make similar arguments regarding the attractiveness of life in India for IT professionals in Chennai.
[118] See also Engels (1994) and Srivastava (1998) on the inculcation of British culture and values through education.
[119] From a position of relative post-colonial privilege, Indian doctors have become more disillusioned with their treatment in the National Health Service. See Gandhi (1992) for a

Flexible migration patterns have also benefitted some doctors, who can leave India for relatively short periods during the early stages of their careers, acquire skills and then return when desired. This reflects more favourable opportunities in India and deteriorating conditions for career migrants in host countries (Robinson and Carey 2000). For example, one local radiologist who spent two years working in the UK now regularly comes during the summer, leaving his job in a corporate hospital for short-term postings of several months. Through agencies doctors can move back and forth between private hospitals in India and the UK when opportunities arise. However for clinicians this is more problematic. Working outside the corporate sector and laboratory specialisms, the careers of doctors are less flexible because consultants have to spend time building up their reputation and patient numbers in the local health care market.

Local doctors often critique the experience gained by doctors working overseas, which limits colleagues' exposure compared to positions in India. For example, doctors report that an Indian doctor may be the third surgeon in a team in the UK or US whereas locally surgeons can quickly assume greater responsibility. However, this also means doctors have a longer apprenticeship before conducting complex procedures. Opportunities for continuing medical education have increased in other parts of India, so many doctors from Kerala have acquired skills from centres of excellence elsewhere. Thus international migration to Anglophone countries is no longer necessary to gain greater technical experience.[120] Although training overseas is a more economical option compared to the problems of gaining a post-graduate seat in India, this is not widely discussed or appreciated. Positions overseas provide doctors with professional qualifications, while also being paid, compared to the time and expense required to gain entry to post-graduate qualifications (discussed below). Migration to Anglophone countries is still restricted to a small number of elites, who are less grounded in British culture compared to previous generation, and doctors choose from a wider number of destinations.

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critique of the changed status of Indian doctor as 'foreigners.' Previously doctors had opportunities to become committed employees of the NHS. Indian doctors have collectivised to maintain their rights in recognition for long-term service. For example in rallying against the European Union (EU) legislation privileging other members of the European Union ahead of Indian doctors in gaining training posts in the UK. The judgment was finally in the court of appeal. See 'Overseas doctors win ruling.' 20th Nov. 2007. http://news.bbc.co.uk/1/hi/health/7087846.stm. Accessed 10th June.

[120] In Kerala there are no highly prestigious centres attracting doctors from other parts of India to learn pioneering techniques. For example All India Institute of Medical Sciences, Manipal, Christian Medical College, Vellore, Madras Medical Mission. However the situation may change as the new corporate sector strengthens.

Small numbers of doctors from Kerala migrate to the Maldives, Australia, Ireland, Canada, the United States, Sri Lanka, although the Gulf is the most important destination for migration. For the majority of doctors, migration is a question many contemplate during the course of their career and it is commonly discussed, but migration is not a reason for doctors in Kerala to enter medicine (cf Mullan 2006). Some mid-career doctors move to the Gulf or consider migration further afield if they have an average practice - two doctors I met who had decided to move mid-career to the Gulf, were motivated by changing family circumstances. Going to the Gulf can provide more income although migration is sometimes short-term, particularly if doctors do not enjoy their experiences, e.g. in Saudi Arabia. Several doctors I met while on leave in Kerala had chosen to settle with their families in the Gulf. Doctors can work in high tech set-ups and earn higher salaries compared to the competitive context of local practice, which for these doctors was a factor for migrating and postponing return.[121]

As greater flows of engineers migrate for IT jobs, the young doctors I spoke to told me they have thought and talk about migrating further afield, early in their careers. However, during the fieldwork period (Feb 2005-June 2007), the migration of doctors to the United Kingdom was problematic due to legislative changes. This has increased negative perceptions of the insecurities of migration, as the General Medical Council was still conducting PLAB[122] exams and issuing visas, but not offering doctors employment.[123] Amongst young doctors from less privileged backgrounds migration is an attractive option, and for those struggling to establish careers in the local health care system. I met several doctors who had obtained positions in the government sector, who subsequently took leave to go to the Gulf for several years. These doctors could not afford to spend time out of work to study for the competitive post-graduate entrance exam. Migration is an important route to earn higher salaries, approximately four times the basic salary for government service - Rs 15,000 per month ($375). Since leaving the

[121] Although there is some flexible movement between Kerala and the Gulf, I met only ten doctors who have worked or are working in Gulf. Without doing research in the Gulf it is difficult to assess – but in comparison to nurses, migration is less important for doctors. Given that most doctors are essentially self-employed and their income proportional to the number of patients or treatments performed, it is difficult to provide accurate comparisons of salaries between Kerala and the Gulf, and successful local doctors can earn considerably more than salaries in the Gulf.

[122] Examination necessary to convert overseas medical qualifications to register with the General Medical Council in the UK to achieve recognition to work in the British system. Part I is conducted in centres in India, and Part II in the UK.

[123] At that time, stories circulated of impoverished Indian doctors having to rely on the handouts of temples in London, reported widely in the Indian press.

field, the salaries offered to government doctors have increased as a result of ongoing strike action, and in order to attract and retain staff.

While employees in the IT industry have come to epitomize the 'knowledge worker,' as flexible migrants searching out new opportunities (Biao 2006), the majority of doctors are more firmly grounded in the local health system.[124] As independent physicians whose success is dependent on building a good reputation locally, it is more difficult for doctors to become highly mobile. With the exception of elite migration to Anglophone countries, push factors motivate less successful doctors. Migration is therefore particularly important for doctors who struggle to establish more successful careers in Kerala. The incorporation of physicians into the corporate environment has also somewhat increased the mobility and flexibility of doctors' working lives, as doctors become full-time employees of hosptials. However, in accordance with parental aspirations, the majority of young doctors are more concerned with arranging a good marriage, gaining entry to a post-graduate course, and setting up a good practice in the local health care system, which is also a source of greater prestige for their families. Therefore unlike nursing, a medical degree in Kerala is not a ticket to migration, although many doctors migrate (cf Mullan 2006, Kaushik et al. 2008).[125] Although the skills and experience of elite doctors has been important to establish new facilities in private institutions, this is becoming less important, as the opportunities for specialist training in India continue to improve. With the exception of elites, migration patterns are symptomatic of inequalities within the medical profession, which make it more difficult for doctors from middle class backgrounds (e.g. children of teachers, lecturers) to establish successful careers, without the assistance of dowries to fund post-graduate qualifications.

[124] Ten per cent of the doctors I spoke to had migrated at some point during their career (cyclical migrants). I met more doctors who had migrated as they had more inclination to talk to a foreigner. Even fewer doctors are likely to migrate from rural areas, apart from doctors working in government service that migration is not significant. Figures given in the introduction based on estimates of local doctors. Only two doctors I know have since left the city to migrate overseas (to the Gulf and the Maldives). The movement of doctors is more common from one hospital to another, although the Gulf is an attractive flexible option.

[125] By comparison a recent survey of physicians at the All India Institute of Medical Science (AIIMS) found that 54 per cent of doctors graduating between 1989-2000 were now practicing overseas (Kaushik et al. 2008). The survey also found that twice the number of doctors gaining admission in the general category migrated compared to those admitted under reservation. Elite migration from this premier institution is important, particularly if physicians are able to gain good experience in the United States. Similarly, the children of elites who have also worked overseas are more likely to migrate overseas early in their careers rather than taking entrance exams in India, although this is a very small minority.

Post-graduate Qualifications

Post-graduate qualifications are now essential to 'become a doctor' in the eyes of wider society, and are necessary to obtain a position as a consultant in a private hospital. However, opportunities are limited relative to ubiquitous demand. The amount of time young doctors spend studying for entrance exams is a more considerable drain on the health service compared to migration - in reducing the supply of young doctors and limiting the development of clinical experience.[126] Doctors from more affluent backgrounds, some of whom are the children of doctors, can take years out to study full-time in specialist entrance coaching centres. Others from more modest family backgrounds work for six months of the year and study for another six months, or continue to work without sitting exams. Before entrance exams there are staff shortages in casualty departments, as many young doctors take leave to study for exams. Several young male doctors I met who had not taken post-graduate exams were highly mobile, working across different hospitals on a short-term basis. This also reflects the exhausting duties in rural hospitals because doctors need a break after several months, after working continuously on day and night duties - tending emergency calls, treating accident cases, other acute illnesses or deliveries. Several of these doctors have also since migrated to the Gulf, and one other to the Maldives.

The chance of admission to a good post-graduate seat is small, as there are only 128 post-graduate degrees and 91 diploma courses. [127] I met one rank holder who came 100th out of approximately 2-3000 candidates. He had decided to retake his exams because this result will only lead to a post-graduate seat in a minor specialism such as anaesthesia or a diploma course. The other route to a post-graduate seat is to pay between Rs 25 to Rs 50 lakhs ($50,000 to $100,000) in a private college. Dowry is an important way to finance post-graduate qualifications – reportedly most common amongst the Muslim community, who can marry into wealthy migrant families, as highly sought-after grooms. The situation is changing, as more diploma courses are established in corporate hospitals, which will gradually alleviate the delay in career progression - by increasing access to higher skills, while also reducing the cost of post-graduate education.

[126] Quotas have now been established for PG exams for young doctors who have completed one year of rural service to encourage doctors to practice after their MBBS degree.

[127] Available at http://www.cee-kerala.org/pgmedi/2008/appl/pros.pdf. Accessed 10th June.

The Privatisation of Medical Education

One of the most controversial aspects of economic reforms in Kerala has been the recent licensing of seventeen new private medical colleges.[128] At the time of privatisation in 2001, the government argued 45 per cent of medical students in private colleges in Tamil Nadu and Karnataka were from Kerala (Krishnakumar 2004). Significant numbers of students from Kerala also travel to other parts of India, China, and Russia for graduate and post-graduate qualifications before returning to practice in India (see also Qadeer 2006). By opening private colleges it was argued the measure would bring money and jobs into the state, given the significant numbers of students already migrating.

Donations to private medical colleges are high because of the considerable capital expense associated with establishing a new college and the fact that institutions struggle to attract patients. There are now 1,650 seats in private medical colleges compared to 850 MBBS seats in the government sector. Concerns are also raised about the standards of candidates. Compared to the government sector, where doctors have excelled through the competitive entrance exams, middle class families can pay regardless of the entrance exam rank, particularly in the Non-Resident Indian quota which accounts for 15 per cent of candidates. Aspirations are often driven by parents that many students don't have interest to study.[129] Privatisation thus may reduce the standard of medical graudates, providing greater access to medical degrees from people with business backgrounds and significantly inflates the expense paid ultimately by society of producing doctors - if investments are later recouped through patient fees. In total candidates are likely to invest a minimum of 40 lakhs ($80,000) to obtain an MBBS degree and post-graduate qualification (MD) in the private sector.

The privatisation of medical education and the system of post-graduate education discriminates considerably against women. While men can make dowry demands to pay for post-graduate qualifications, it is difficult for female doctors to get married without considerable expense. Families of female doctors prefer their daughters to marry other doctors, so their husband is not of a lower status. However the cost of marrying a doctor or engineer is becoming prohibitive. Doctors lead dowry inflation, demanding in the region of Rs 10 to 15 lakhs ($20,000- $30,000), cars or more expensive post-graduate qualifications. However families also encourage female children to train for medicine, and some

[128] Private colleges now produce 45 per cent of MBBS graduates. Refer to Mahal and Mohan (2006) for a review of the growth of private medical education in India.
[129] Interview with a teacher from a private medical college.

women are entering new private medical colleges, from fairly modest family backgrounds.[130]

Announcing the reforms at the local government medical college the minister justified privatisation by saying, "we want *every* household in Kerala to have a doctor," reflecting an imagination of a 'developed' Kerala, comprised of middle class households with a doctor in the family. On the one hand reforms have been received with a sense of social justice that improving access to medical education, democratises access to an elite status group. On the other hand people remain cynical privatisation will only benefit the rich. Both visions reflect the ways in which the high status of the doctor, as an aspirational career for middle class households divorces the idea of becoming a doctor from the reality of a career treating the sick. Despite contradictions, private aspirations to become a doctor have captured the imagination across different sections of society, including manual labourers, who are also sending children for entrance coaching in local centres.[131] Many parents dream of their child becoming a doctor or engineer and invest in education accordingly, as an important practice which in itself which has come to constitute modern middle class identities.

While society sees the doctor as rich, privileged and successful, this is very different from the experiences of many young doctors. In medicine, family background and affluence are important criteria for a successful career in medicine (Béteille 1991). In addition to the inherited advantage of exposure to a medical habitus, children of doctors can afford private post-graduate qualification and super-specialisations, while others take more time out to study for post-graduate entrance exams. Even if doctors have no career gaps, it takes at least eleven years to become a cardiologist. In medical practice, family heritage is also a significant advantage to acquire patients. For the majority, life as a young doctor is filled with exams, stress and poorly paid work as a junior assistant or casualty doctor. Even if young doctors decide to return to practice medicine near their family homes, this still leaves the expectation of wider society that doctors should study for post-graduate qualifications. For example, one young doctor

[130] For example, I met several men of fairly modest means, keen to pay for their daughters to study medicine. The first was from the Christian community – an office worker who had taken a a bank loan to finance the Rs 20 lakh donation. Another man from the Gulf who owned a small air-conditioning company was also trying to get admission for his daughter. It is therefore not just the rich who are trying to improve status through admission to private medical colleges.

[131] For example, one doctor from a rural area, was approached by a manual labourer, who sought advice from about his son's entrance coaching and advice about becoming a doctor.

complained that when he returned home, even manual labourers would ask when he was going to study for his 'PG.'

While young doctors receive a significant amount of esteem from wider society, many lack income unless they depend on parents or dowry. Working as a casualty doctor and assistant in a private hospital salaries start at around Rs 7,000 ($175) per month. From round the clock duty in rural service doctors earn approximately Rs 20,000 ($500). Several young doctors compared their low salaries, years of study and problems in establishing a career, to the fortunes of nurses from Kerala working in the Gulf, who earn four to six time the salary of a a locally employed MBBS doctor working as an assistant in a private hospital. Nurses have become a major 'export' industry from Kerala. There are an estimated 40-50,000 nurses working in the Gulf from India, 90 per cent of whom are from Kerala.[132]

Conclusion

This chapter has examined the social context of health sector transformation, as a career in medicine becomes the most important routes to social mobility, status, employment and accumulation in the local and global knowledge economy. It illustrates how medicine has become one of the most important areas of social life, through which ideals of social mobility, achieved through accumulation, thrift, investment, work, migration, marriage and education are being articulated and realised (Osella and Osella 2000). It illustrates the importance of the privatisation of medical education and the cost of post-graduate specialisations in further cementing the marriage between medicine and business, and the amount of capital necessary to investment in the health sector. The privatisation of medical education is therefore important in perpetuating and magnifing the extent of commercialisation of health care - as the cost of medical education is ultimately recouped from wider society, and as more doctors come from business backgrounds.

The chapter has illustrated the emergence of health inequalities as the salaries of nurses and migrants become linked to the global domain, meanwhile the local cost of health care and competition within the medical profession increase. In contrast to the middle class idyll of medicine as a route to social status and

[132] See George (2005) on the migration of nurses from Kerala to the United States. Refer to Percot and Rajan (2007); Percot (2006) on migration to the Gulf, and Thomas (2008) on nurses from Kerala working in Delhi. See also Hawkes et al. (2009) and Healey (2006) on the nursing brain drain and out-sourcing of care from India.

employment, it illustrates the growth of inequalities within the profession. As the career aspirations of doctors have increased, the relative income of doctors has declined in relation to other members of the middle class. It illustrates how the aspirations of doctors have increased as opportunities in medicine expand, and as a result of patient preferences to seek advice from doctors with post-graduate qualifications. Like other areas of the economy, the ambitions of doctors have changed as career opportunities, choices and the necessity of further qualifications increase.

Although patients expect health care to be governed by a different set of morals compared to mainstream society, in the production of health care professionals and in the consumption of health services, ideas are being fashioned by the wider values of the consumer society. Contradictory demands are being placed on the medical profession – to expect doctors to act with a different morality compared to other members of society. However doctors spend the longest number of years in study to finish both graduate and post-graduate qualifications. An important dynamic driving the gap between health care as a social good and the knowledge economy, is the wider demands of the middle classes to use a career in medicine as a route to social mobility, and the ambitions and societal expectations placed on doctors to study for post-graduate qualifications. Consumer demand for medical qualifications is considerable, reflecting the high status of doctors relative to the number of places available to train in medicine during the post-independence period. The privatisation of medical education reflects the ways in which the needs of society for affordable health care have been subsumed to the demands of the affluent middle class for social mobility. The next chapter examines the social processes shaping the growth of super-speciality medicine and the impact of corporate health care in creating a new paradigm in patient care, professional values and business practices.

Chapter 5:
The Rise of Super-Speciality Medicine

Dr Balakrishna sits in the office of his outpatient clinic, in the mission hospital where for the last thirty years he has been working as chief physician. Over the last three years the patient numbers attending his surgery have gradually dwindled from a steady stream to a meagre trickle, leaving us considerable time to talk. The first patient of the morning is an elderly man with a limp who comes in to consult the doctor about his diabetes, accompanied by his son and daughter in law. The doctor reads through his medical records from another hospital detailing the treatment for the patient's sprained leg, neatly bandaged around the knee. While leafing through his scripts, Dr Balakrishna turns to me and says,

> "People here think the grass is always greener – they want that famous ortho-surgeon for the spine, who trained in Liverpool. He is an old patient of mine, but that is the way. He fell down and now he wants a bit of that – he could have come here and done it."

The doctor's falling outpatient numbers mirror general concerns within the hospital about the steady decline in patients. New super-specialty hospitals have opened up in the centre of town, equipped with the latest high tech equipment and super-specialist doctors. Patients' aspirations have increased, and the health consumer in Kerala has a considerable amount of choice in deciding what 'a bit of that' might entail. As Dr Balakrishna continues,

> "Private hospitals have come up, the buying power has gone up, but not that many can afford private treatment. Once wanting to take private treatment the patient goes hunting, and choosing. 'IMS' came along with a big fanfare – a truly tertiary centre – transplant, coronary artery by-pass. Not everyone goes to the newest hospital – they drift along - then for ordinary illnesses they get split between all the hospitals."

The splitting of patients between hospitals has become a problem for the institution, which continues to lose market share as patients drift towards super-specialist doctors for the treatment of minor and more serious health problems. The mission hospital is facing a moral dilemma – to go high tech and compete with the services of larger hospitals or to sit and watch as patient numbers continue to fall. Two years previously the institution invested in a CT scanner,

which was shrouded in moral concerns, the organisation was losing its institutional ethos to provide 'affordable health care for the common man.' To follow the market means strengthening the ties between business and medicine, to invest in technology and recoup the cost from patients. The experience of this hospital has become a sign of the times, as dominant values of technology, commercialisation and consumerism raise challenging new questions - the possible responses to which potentially further unsettle the moral foundations of the institution. In the words of Dr Balakrishna, "if you are not updating you will perish."

As the number of health care providers has mushroomed across the city, the marketplace has been set in a continual state of activity, as new service providers open, and as institutions continually adapt practices to changing market conditions. Strategies have become necessary to maintain or enhance competitive advantage, in contrast to the more permanent pathologies and complaints, which form the humdrum of the everyday life in the doctor's outpatient clinic. This chapter examines the growth of the private sector, the ways in which medical technologies have been diffused into the health care market, and the values produced through the marketplace as hospitals in Kerala engage in the never-ending process of 'updating' and 'upgrading.' The chapter examines the ways in which business, consumer and professional values are transforming the marketplace and the provision and consumption of health services. It explores the extent to which hospitals have become dis-embedded from local communities and the ways in which the provision of health care has been commodified.

Characteristics of the Private Sector in India

In India, the private sector has been dominated by the private practices of doctors. Although the British established medical colleges, which ran alongside institutions set up by local philanthropists and the missions, Indian doctors maintained a considerable amount of autonomy. Doctors followed the example set by their European counterparts, combining work in the government sector with private practice. Indian doctors had limited opportunities in government service, working as assistants for British doctors on low salaries. Many moved to earn income from more lucrative private practices or combined private practice with government work (Ramanna 2002:8, Jeffery 1988:183-186, Mahroof 1998). In 1946, the Bhore Committee reported that 27 per cent of allopathic doctors were in the government sector, while the remaining 73 per cent were private

practitioners. Meanwhile 92 per cent of institutions were maintained on public funds and the remaining 8 per cent by private agencies (Baru 1998:50). Despite the fact that most positions open to doctors were in government institutions, private practice has been a considerably more profitable source of income (Ramanna 2002). Furthermore, given the lay public's emphasis on the abilities of individual doctors, and the predominance of clinical work 'checking' patients and dispensing medicines, doctors have maintained a considerable amount of autonomy in the private and public sector, due to popular support and belief in the skills of particular physicians.

Although the Bhore committee highlighted the need to prohibit the private practice of doctors, successive attempts to curtail private practice by different state governments have been unsuccessful (Baru 1998:48-50, 153-154, Jeffery 1988:259-60). The degree of permeability between the public and private sectors has in part been the result of government doctors' rights to treat private patients (Kamat 1995, Baru 1998, Jeffery and Jeffery 2008).[133] Although not officially sanctioned, in Kerala access to surgeries or pregnancy care in government medical colleges is routinely the result of private consultations with doctors. Thus individual doctors have had considerable powers as gatekeepers within the health system. Although the model of professionalism in India has been weak (Jeffery 1977), doctors have dominated the health care market as one of the most important factors shaping the treatment seeking behaviour of patients.

Utilisation statistics indicate that around 60 percent of inpatient care in Kerala, and 80 percent of outpatient care is obtained from the private sector (NSSO 2006a). As small nursing homes and the private practices of doctors have been important sources of care (Phadke 1994, Bloom and Standing 2001, Jeffery and Jeffery 2008), transformations to the private sector have important implications for the accessibility and affordability of health care across all sections of society. Researchers have highlighted problems regarding the quality of care, infrastructure, equipment and the social responsibility of medical professionals and hospital owners in the private sector (Phadke 1994, Baru 1998, Bhat 1993, 1996, 1999, Nandraj et al. 2001). Poor physical standards and scrimping on the use of resources (Nandraj and Duggal 1997, Yesudian 1994), irrational drug

[133] Although private practice has been widely criticised as it is not officially sanctioned, Kamat's (1995) study of a popular primary health centre in Maharashtra illustrates how the public-private mix of practice can increase access to medicines, patient satisfaction and the utilisation of government services while also increasing the income of the doctor.

prescription habits (Melrose 1982, Phadke 1994, Bhat 1999), the unnecessary administration of scans, technologies and surgeries, and the unethical profit motivated practices of private sector providers (Yesudian 1994, Phadke 1998, Thankappan 1999, Muraleedharan 1999, Mishra and Ramanathan 2002) have been notable constraints to quality and ethical service provision. The disorganised market and an autonomous independent physician population have restricted the possibilities for effective regulatory controls (Phadke 1994, Baru 1998, Bhat 1996, Peters and Muraleedharan 2008, Jeffery and Jeffery 2008). This is the context into which more sophisticated technologies, hospitals and clinics were integrated from the 1980s onwards.

In 1982, the Sixth-Five Year Plan, first outlined the view of the government to reduce expenditure, to encourage the establishment of practices by non-governmental agencies and for the state to provide logistical, financial and technical support to voluntary agencies active in the health field (Baru 1998:52-53). This was the first move to officially recognise the private sector, which has grown since independence, and to officially recognise the inability on the part of government to provide the required level of service provision. The government offered concessions to private sector providers by reducing import duties on high technology medical equipment, which more than tripled the volume of technologies imported between 1980-1986, a trend which has continued to intensify (Baru 1998:54). Critics have argued the recent influx of technologies and new approaches to medicine may not represent a paradigm shift based on substantive clinical thinking but maybe an ideological imposition grounded in a particular economic thinking (Qadeer 2001:419). For doctors and patients, technologies added something new to the health care market, providing an important opportunity for investors to meet patient desires for higher standards in health care. Rather than economic thinking, the diffusion of high tech medicine has been shaped by the context of a competitive marketplace, as objects marketable to consumers. In Kerala, technological diffusion was accelerated as this was a time when remittances were steadily pouring into the state from the Gulf. In rural Kerala, Osella and Osella (2000:144) note, upgraded institutions were known as 'Gulf style' hospitals as spending on health care became an important priority for newly affluent families.

The Growth of the Private Sector in Malabar

In the 1930s, there were only a few private practitioners, many of whom came from wealthy families who immigrated to the area from southern Kerala, to take

advantage of cheaper land prices and opportunities in the plantation economy (Osella and Osella 2000:76, Tharakan 1978). Many non-Muslim doctors in the area are originally from other parts of Kerala, moving to the region as forward caste landlords, who subsequently educated their children as professionals. From the 1950s onwards, doctors have progressively moved to the area, as the children of doctors or government servants posted to the region. The area continues to attract doctors from other regions, who have moved to Malabar to establish hospitals and scanning centres. In neighbouring rural areas with the densest concentrations of Gulf migrants, doctors have migrated to establish clinics, to work in hospitals and to practice privately in an area still relatively under-served compared to local incomes and high levels of demand for services.

The earliest private 'hospitals' were established in the area during 1930s and 1940s, when a small number of doctors from the Nayar community started clinics to serve outpatients. Previously doctors travelled by car into local neighbourhoods and households, before establishing clinics, as a more efficient way of managing higher volumes of patients. Several maternity homes were also established in the centre of town in the 1930s for pregnancy care. Other doctors opened up small maternity units in outbuildings attached to their houses. Some doctors who had established successful clinics opened up nursing homes expanding care in surgery. The origins of the private sector were extensions to the practices of individual physicians, offering quieter surroundings and private rooms, although the majority worked in the government sector and in private practice. The number of small nursing homes increased during the 1950s and 1960s, offering quieter surroundings and private rooms. Several nursing homes were established by doctors from the Muslim community providing surgery and outpatient care, and one other institution specialised in the treatment of tuberculosis. Thus institutions were established to serve the health care needs of the local community, and the doctors who established these hospitals became famous and appreciated by the local community for their social service in providing health care.

Before the founding of the government medical college, the mission hospital was the largest institution in the city, established in 1937 by an Italian Jesuit mission. The institution started with ten beds, and had a strong focus on public health - providing free food to the local community, vaccinations, the treatment of dietary deficiencies and other health problems associated with poverty. Gradually the institution grew in size, providing more in-patient care for maternity cases,

general surgeries, the treatment of tuberculosis, alongside palliative care for the elderly and indigent. The mission hospital survived by attracting both middle and lower class patients, using revenue from the treatment of more affluent patients to subside services for the poor. Like the government sector the hospital was established on the outskirts of the city, increasing access and extending outreach to service poor neighbouring districts.

The first hospitals in the 'for profit' sector emerged in the mid-1970s, as some of the wealthiest entrepreneurial families began diversifying into the hospital sector. Although this was the first time money accumulated from other businesses was invested to provide health care, institutions started on an extremely modest scale, one beginning with only ten rooms and two doctors. During the 1970s and 1980s, new hospitals grew out of initial plans to build new hotels or to convert former hotels into hospitals. However as trade between the Gulf and Kerala slowed, entrepreneurs quickly realised the potential for the development of private health care facilities. Investments began in rented accommodation, and institutions employed a small number of doctors for maternity and surgical interventions. However unlike small nursing homes, profits were re-invested into the hospital and due to high levels of demand, institutions steadily grew, expanding departments, adding operating theatres and moving to new premises to increase accommodation blocks.

The rapid growth and transformation of the health care industry occurred from the early 1990s onwards, following the government's reduction of taxes on the importation of medical technologies (Baru 1998). At the same time, international financiers entered the Indian market, increasing the availability of cheap loans. In Kerala, the resulting financial liquidity and lower taxes made investment in the health care industry one of the most attractive sectors of the local economy, provoking a gold rush of investment in large hospitals, specialist clinics, and smaller scanning centres, as Gulf money financed health expenditure. The 1990s therefore marked a watershed when the owners of different hospitals began investing on a scale previously unseen in the area.

The first 'super-speciality' hospital in the city was inaugurated by the famous Bollywood actor, Amitabh Bachchan in 1995. This was the first institution to open for business with a ten-storey tower block, suites of operating theatres, specialists equipped with visual technologies and deluxe private rooms. While other hospitals had been expanding from the 1970s, the arrival of this hospital

increased the pace of development. New super-speciality hospitals were built in the central retail district of the city, marking a shift away from the local hospital in the community, as institutions rapidly built upwards to become the most prominent skyscrapers on the urban landscape. Superior technological set-ups, salaries and working conditions also attracted more doctors to work in the private sector, as medical practice became focused around the use of technology. From the mid-1990s onwards, private hospitals first began to define themselves as superior to the government medical college, through specialist facilities, medical expertise, diagnostic technologies, and infrastructure, while the government sector was unable to invest. Hitherto the expansion of the private sector was responding to significant unmet needs, whereas the 1990s marked a turning point when private hospitals began the work of shaping and defining medical needs through technology, specialisation, and private accommodation blocks, and succeeded in attracting greater volumes of Gulf migrants and middle class patients to hospitals.

Large private hospitals became known as 'Kerala hospital and scan centre,' as the availability of scanning became the most marketable and marketed aspect of care. The term 'super-speciality' is therefore a more recent invention in public discourse. As one local doctor explained in layman's terms ' the emphasis is on 'super' rather on 'speciality', as a catchall term for better health care and luxurious private rooms. In medical terms, 'super-speciality' medicine has meant the addition of various medical specialisms to hospitals - cardiology, nephrology, urology, gastro-entrology, neurology etc. and more recently specialist interventions such as cardio-thoracic surgery, renal transplant, cochlear implantation, maxillo-facial surgery, gastric by-pass surgery etc. In everyday medical care, super-speciality medicine means that many people directly consult a specialist doctor, most of whom are equipped with visual scopes to see inside the body – the chest specialist or pulmonologist with a bronchoscope; the gastro-entrologist with an endoscope (see Ecks forthcoming) or colonoscope; the cardiologist with an echo machine; and more recently the interventional cardiologist working from a Cath laboratory. Although neurology is also a 'super-specialism,' it is practiced from an outpatient clinic and the doctor does not use technologies, but can refer patients for a CT scan, EEG (electro encephalogram) etc. if necessary.

During the early 1990s many doctors were already working as specialists in private hospitals, although as institutions grew more doctors were recruited,

some from other parts of Kerala, although many doctors were local and known to the population. When hospitals began investing in more sophisticated technologies, doctors had previously graduated from their specialist training before the use of the new technologies were available in medical colleges. As the owners of hospitals decided to invest in technologies, some travelled to other hospitals to receive training for several weeks before practicing in the clinic. Therefore new technologies were rapidly introduced into the medical marketplace and the clinical context. While doctors became skilled in working with scopes etc. to image people's bodies, doctors did not necessarily acquire the necessary skills to guide any therapeutic interventions using new technologies. [134] The situation has since improved, as younger doctors learn how to work with new technologies, to read and interpret scans as part of their post-graduate training courses. However during the 1990s, when other doctors started using techniques minimal training had been acquired, mostly on an informal basis. A considerable amount of continuing medical education is still provided on an informal basis, with doctors travelling to higher centres in order to learn new techniques, which they may introduce into their clinical practice. However standards are improving as training becomes more formalised in new corporate hospitals, and doctors become more experienced in advanced techniques.

Making a Hospital: Super-Speciality Medicine in Kerala

There are eight large hospitals in the city functioning as multi-speciality centres, with over two hundred beds. New corporate sector hospitals have slightly distanced themselves from lay framings of 'super-speciality' medicine, adopting the more impressive nomenclature 'Institute of Medical Sciences' - the name used by new corporate hospitals in large urban centres across Kerala, and copied by some small nursing homes in the periphery.[135] My initial entry point into the world of super-speciality medicine was through interviews with the general managers of each institution, who are often retired officers from the Indian military. Each produces a glossy English language brochure detailing the mission, vision and history of the institution. Each brochure contains photographs illustrating the work of the institution, dominated by sometimes graphic images of doctors performing intricate procedures on patients or patients lying in beds, surrounded by technologies. More recent brochures have taken a softer approach, providing snapshots of the interiors of communal areas such as new

[134] Based on interviews with two radiologists, one ophthalmologist, one pulmonologist, one gynaecologist, several general physicians and one surgeon.
[135] The move copies the All India Institute of Medical Sciences as the premiere institute for training and research established by Jawaharlal Nehru in 1952.

reception desks, and patients with faces enjoying the personalized care of medical staff and technology. Each hospital now has a website providing similar information to that found in brochures, a trend accelerated by the advent of medical tourism.

In brochures, hospitals list all the specialist departments available at the institution, the hundreds of different machines, specialist procedures performed, and the names and qualifications of doctors practicing at the institution. Increasingly hospitals are producing separate pamphlets providing specialist information about wellness centres, executive health checkups and cardiac care. Although experiences on the ground highlight the particular areas of expertise and embeddedness of different hospitals in local communities, distinctions are not readily discernable from generic marketing literature, which promote all departments. Similarly, amongst local patients, awareness is low about the particular capabilities of different institutions, beyond the reputation and names of doctors practicing in different hospitals. For example, only one hospital performs procedures in the Cath laboratory with the back-up of a team of cardiac surgeons, should anything go wrong. However this type of information is not known or considered by the local population.

The mission statements of organisations reflect the evolving orientations of the hospital sector from the first super-speciality hospital in 'service to humanity' to the latest corporate, 'a global vision, a caring mission.' In mission statements hospitals try to transcend the contradictions between science, technology, cost, care and inclusiveness, juxtaposing 'world class health care' with 'affordable rates'; 'yesterday's tender loving care' with 'tomorrow's medical technology;' 'tradition' with 'quality', or more simplistic framings – 'we care for the patient.' Brochures are predominantly used for business purposes e.g. trade fairs or for informational purposes for special visitors to the institution. Mission and vision statements are displayed inside institutions alongside the branded logo of institutions. Marketing discourses are important ways in which institutions want to see themselves and to present the institution to the wider public. Although doctors practicing at the institution are sometimes listed, institutions are primarily defined in these materials through technologies and specialist departments.

Pathways to Development

Marketing literature, mission statements and websites are examples of the economy of practices, which most hospitals engage in to position their institution

in relation to other service providers. However practices often provide a public impression that hospitals are similar, as most provide all basic specialisms and have integrated technologies into medical practice. Marketisation has produced similar strategies, as institutions continually update interiors, and expand into similar areas of medicine such as cardiology, radiodiagnostics, infertility treatment, and diabetic care. During fieldwork more hospitals began providing patients with medical records in plastic folders and plastic cards for outpatient tickets. However institutions have adapted and grown overtime, to provide many different services. By studying the different pathways of institutions, trends and divergences between institutions emerge, reflecting broader trajectories of marketisation. Through analysis of the biographies of different hospitals and by exploring the relationship between institutions and doctors, it is possible to trace the shifting orientations of hospitals over time. The first two examples are super-speciality hospitals, which have grown organically since the 1970s. These institutions have lost ground, compared to the leading institutions, 'Doctor Memorial' and the 'Institute of Medical Science,' which have become the dominant players in the health care market. The biographies of each institution are based on interviews with the managers and owners of the hospital, public relations officers, and leading doctors. Prolonged observation of medical practice was conducted in the community super-speciality hospital, the mission hospital, and the Institute of Medical Sciences.

Super-Speciality Hospital A

Dr Kareem spent several years in the United States, returning to the city in the early 1970s to acquire a plot of land in the central retail district of the city. The institution started with 30 beds providing surgeries and maternity care, and over the years the ambitious owner has steadily increased the size of the institution to a 400-bedded hospital. A pharmacy, accessible from the street is located at the front entrance of the hospital, while the CT and MRI machines are situated to the left and right entrance to the main building. With the exception of several small maternity homes, the institution was the first to open in the central retail district of the city, compared to most nursing homes, which are scattered throughout different communities of the city. It was also one of the first institutions to invest in a CT scanner in the early 1990s and the first hospital to purchase an MRI machine in 2004. It is also one of several institutions with a license to conduct medical check-ups necessary for migrants to obtain visas in the Gulf. Dr Kareem's two sons also work at the hospital – one trained as a neurologist and the other a neo-natologist. The family own a small house in the centre of the city

from where the doctors practice medicine privately in the evenings, illustrating the importance of private practice, even for the owners of a large hospital. The neurologist also conducts outpatient clinics several times a week in small hospitals across neighbouring districts, often referring patients to the hospital for CT and MRI scans. The hospital attracts patients from all over the city and beyond, many coming through referral networks from other hospitals and doctors on a profit sharing basis or cut basis, whereby the referring doctor will receive a percentage of the fees for the treatment at the institution (Yesudian 1994:76).

The super-speciality hospital is a significant but small part of the doctor's business group. Dr Kareem has established colleges providing degrees in health sciences, nursing, dentistry, āyurveda, engineering and business. Many of the technical staff working at hospitals across the city have acquired degrees from his colleges. He also recently opened a new medical college with permission to admit 100 MBBS students from 2009. Because the owners have interests in educational establishments, there has been less emphasis on maintaining standards in basic interiors of the hospital. It has competed to a limited extent with other hospitals, although it maintains a reasonable market share and has recently refurbished its accommodation block and added new air-conditioned theatres.

With the exception of a gynaecologist (retired from medical college) and a cardiologist, famous amongst the Muslim community, there are no other doctors who attract large volumes of patients to the institution. The cardiologist, in his early sixties, runs a non-interventionist programme, called the 'Open Heart Programme,' adapting methods developed by Dr Dean Ornish in the United States. The principal is that through dietary and exercise modifications and drugs, critical blockages of the coronary arteries can be reduced to safe levels. Patients come to the centre for 10 days of residential treatment, during which time they receive information about heart disease, psychological counselling, education with a nutritionist, and follow a yoga and exercise regime. Their progress is constantly monitored and their treatment is the start of what is hoped to become a life changing process. Within ten days the cardiovascular function can be radically improved. Patients experiencing breathlessness and discomfort after two minutes of exercise can normally leave the programme able to walk on a treadmill for at least 30 minutes. Patients come because they cannot afford by-pass surgery, are frightened by the prospect of an operation, or recommendations of friends, and many are grateful for the life-changing aspects

of the programme.[136] The cost of the programme is Rs 10,000 ($200) for ten days compared to 120,000 ($2,400) for by-pass surgery. Although the programme is less expensive compared to heart by-pass surgery or angiograms, as a successful businessman in other areas, the doctor receives some criticism from community members for his money mindedness. This hospital is more dependent than other institutions on referrals by other doctors, while the pharmacy and technologies are highly visible to patients.

The Community Super-Speciality Hospital

The other super-speciality hospital to have grown organically, was established in the 1970s by members of the Ezhava community with money from the transport industry. The family were able to diversify into health care when the owner's daughter married a surgeon, who is the managing director and chief surgeon. The owners also established another hospital in Cochin. The institution has 300 beds and all basic super-speciality facilities. It is situated next to the local Muslim community of traders, who use the hospital for maternity care, everyday illnesses and hospitalisations. It also serves other office workers from the surrounding area. The hospital has gradually expanded adding accommodation blocks, new theatres and specialities. There are two ultrasound units in the hospital, owned and managed by different doctors, one of which is housed as a separate CT scanning unit, as the hospital managers did not have money or inclination to invest when scanning technologies were introduced.[137] The hospital employs several famous local consultants retired from medical college. It has one small general ward, which is over-crowded with patients. Although the hospital looks rather dilapidated from the outside, the reception area has recently been up-graded with white tiles and a stylised metallic desk, and rooms throughout the hospital are gradually being renovated. All reception staff now wear matching green saris, adding to the professional appearance of the institution.

Due to restrictions of space, facilities in the hospital have been built on a modest scale housed in different rooms throughout the institution. The hospital has recently added a Cath laboratory, established by a doctor who has shifted from a hospital in the neighbouring area. The laboratory was inaugurated at a large function attended by local dignitaries, including the government health minister. It is the first institution to have added āyurvedic facilities to a biomedical hospital.

[136] Based on interviews with the doctor, other staff and four patients who have attended the programme.

[137] The CT scanning unit is owned by the ENT surgeon in the hospital, managed by a retired military officer and operated by a radiologist.

The institution runs some health camps in rural areas e.g. screening programmes for lifestyle diseases. Otherwise the institution does not extensively market itself and many patients are regular clients with cards held by the institution, detailing their medical records. Doctors advise most patients to come back for a follow up after two weeks. Charges are slightly less compared to larger super-speciality and corporate hospitals. The atmosphere inside the institution is business-like and professional. The quality of services is superior to those provided by small nursing homes with a steady flow of patients and reasonable charges, providing services to many from the neighbouring community.

From Super-Speciality Medicine to Corporatisation

In 1995 a new super-speciality hospital was established in the centre of the city by a local businessman. It was initially very popular as the first 'hospital and scanning centre.' However the institution has since lost ground. According to local doctors, the businessman has had to rely on doctors, but because he is not a doctor it has been more difficult for him manage the institution and key partners have left and set up units elsewhere. The institution was the first hospital to establish a cardiology unit, run by a doctor from the *Thiyya* community, and is popular amongst this community who come to the Cath laboratory for angiograms and coronary artery stenting. The hospital also attracted a cardio thoracic surgeon, although the doctor has since left and the hospital is no longer conducting operations. The example illustrates the dependency of hospitals on doctors to maintain services and to attract patients. Maintaining good relationships with senior doctors is integral to the success of an institution, illustrated in the following example of the most popular super-speciality hospital in the area.

Doctor Memorial Hospital

At the most central junction in the city, at the back of the large super-speciality hospital, site traffic scoops up large areas of earth of central real estate property, to lay the foundations for a new state-of-the-art oncology unit, cardiology centre, and an additional block of 300 rooms. The central skyline of the city is dominated by the hospital's ten-storey tower block. At the front of the hospital there are signboards for a 64-slice CT scanner and training courses for nurses to go to America, amid flurries of patients in taxis, autos, jeep, motorcycles jostling to enter the limited parking spaces, causing traffic jams at the nearby roundabout.

The owner of the leading super-speciality hospital, who began his business in the

late 1980s, explained he could see the opportunities for a little more 'TLC' (Tender Loving Care) in medicine, to build a more sophisticated hospital. The doctor from a wealthy entrepreneurial family from the Christian community first converted a small hotel, before the opportunity became available to acquire an old hospital on a central plot of land in the city. The doctor moved from southern Kerala to begin the institution. He began building the hospital up, floor by floor with private rooms and theatre suites, while gradually expanding technological capacity and specialisations. The institution had only three floors, until it expanded to become a ten-storey tower block in 2002. The project developed incrementally by reinvesting profits in different stages. Marketing literature celebrates the 'soaring vision' of the entrepreneur to grow the hospital into the huge institution that it is today.

The hospital is the busiest in the city, apart from the government medical college. Its mission statement, "Committed to Care." The manager stresses they need more doctors to keep meeting patient demands. The corridors outside the doctor's consulting rooms are always full of patients, and many have to stand and wait for hours before seeing the doctor. The hospital has expanded into many specialist areas such as kidney transplantation, joint replacement operations performed by famous local doctors. It has one of the few chemotherapy departments in the city, and according to the manager, the first of its kind in the area 'to use fully-fledged linear accelerators from abroad.' The hospital provides most super-specialisations - cardiology, nephrology, neurology, urology, paediatrics, orthopaedics, plastic and reconstructive surgery, and neo-natology. It has introduced new stainless steel surgical units with filters to reduce infection rates. The hospital performs health check-ups, cochlear implants, hip and knee replacements and has several Intensive Care Units. Although this is a large hospital, the emergency room to treat accident cases is minimal with a few beds and basic equipment.

The hospital is described by the manager as a place for the common man and a comparison is made by staff between this institution and a government medical college, with 'good doctors and reasonable charges.' The cost of outpatient tickets varies between different doctors, but is in the region of Rs 170.[138] The manager emphasises the hospital can't simply make money, that his boss is a philanthropist who has done much to help poor patients, although he notes that

[138] This is similar to the cost of outpatient tickets at super-speciality A, but more than community super-speciality hospital and the Institute of Medical Science.

poverty is much less in Kerala. The hospital is the most prestigious institution for people to give birth in, and is full of patients from neighbouring towns who travel for several hours to see the local doctors. The leading doctors are all former heads of department from the government medical college, who come to work in the private sector after retirement at the age of 55. The reputation of the doctors is central to draw people from all over the area to the institution. There is a general consensus in popular discourse that the former heads of department from the government medical college are the best doctors because they have seen the maximum number of cases and unusual conditions (Jeffery 1988:255), and are trusted because they have worked in social service to the local community. Less attention has been paid to the interior of the hospital and the overall environment because the reputation of doctors is sufficient to draw crowds. The manager and owner both emphasise the hospital does not need to market itself, that 'word of mouth' is sufficient.

All senior physicians are 'business partners' who receive a cut of the consultation fee and commission for any procedures carried out. This model has been successful in attracting and maintaining doctors, who work autonomously within the institution. Surgeons are ostensibly renting the theatres from the owner of the hospital, and the institution merely provides the infrastructure for doctors to carry out their work. Generally, well-known surgeons and consultants can move between different hospitals to conduct different types of work, drawing crowds to the institution. Most senior doctors also practice privately in the evenings working in the hospital until one o'clock. Consultants work autonomously rather than being integrated into teams or specialists units, with more junior doctors assisting them in their practice. The owner tells me that they don't cut (operate) in the hospital unless it is absolutely necessary, while alluding to the fact this happens in other parts of India. The commitment of the hospital in marketing literature is to make world-class health care affordable. The owner of the hospital conducts regular outpatient clinics. The 'doctor model' super-speciality hospital emphasises the family business, the capabilities of the entrepreneur and the doctors.

I used the facilities in the treatment of a minor skin problem. I try to approach the hospital without asking for the name of any doctor to see what would happen. I approach the reception desk describing the problem. I am referred to the casualty department, a small, poorly kept room with several old beds. A young female doctor appears several minutes later from the duty room. She has a look

at the problem and advises me to buy an OP ticket upstairs to see the dermatologist, who I am subsequently told by friends is the 'best skin doctor in the whole of Asia.' Although it is nearing the allotted end of his OP clinic, there is still a queue of ten patients waiting ahead of me to see the doctor. When I meet the doctor he prescribes a course of strong antibiotics and a few sleeping pills when I tell him I am slightly run down. The doctor recommends I come back for a follow-up consultation, having emphasized the dangerous nature of the area of the boil that can easily put pressure on the brain.

I take his prescription downstairs to the pharmacy. The total cost of treatment was Rs 800 ($16) - Rs 170 ($3.40) for the consultation and Rs 650 ($13) for the international brand of antibiotics, bacterial cream and four sleeping pills. By the time of the recommended follow-up consultation, the summer boil has totally subsided without medication. His assistant shows me the lazar equipment, which he demonstrates on me by removing a small mole at no extra charge. I do not have to pay another consultation fee and leave feeling satisfied. I treat the same skin problem at the mission hospital at a total cost of Rs 38 ($0.76) without any antibiotics being prescribed. I receive a refund of Rs 14 ($0.28), when the pharmacist discovered a generic lotion was available. The total charge at another super-speciality hospital was also $16.

The Corporatisation of Doctor Memorial

The arrival of the new corporate hospital is transforming the orientation of Doctor Memorial, as both hospitals expand and compete. The expansion plans described in the introduction will double the size of the institution. When opened, the new unit will be the first hospital in the area to specialize in cancer care and the second with a large cardiology unit - the sixth in the city performing angiograms and the second to conduct heart by-pass surgeries. The hospital is also diversifying into post-graduate medical education, and has recently obtained accreditation from the Diploma of the National Board (DNB) to conduct courses in two specialisms (general medicine and anesthesia). The hospital is now setting its sights to expand into the medical tourism market and has recently received accreditation from the National Board (NABH).[139] It now has a video attached to its website showing all facilities, featuring a brief shot of a man dressed in *keffiyeh* (Arab headdress) and d*ishdashah* (robes). As a further step towards realising the new vision of expansion into medical tourism, the hospital has just employed a new cosmetologist - the first large cosmetology department in the

[139] National Accreditation Board for Hospitals and Health Care.

area. The doctor is the one of the first NRIs to be employed by the institution. He has spent two years practicing in the USA and eight years in the UK. The centre is to perform facelifts, reconstructive surgery for the ear and nose, breast reductions and enhancements, and liposuction.[140]

Although the existing business model has been successful, the institution is gradually changing its focus from maternity care, surgery and outpatient work into more advanced procedures, chronic illness, and medical tourism. Due to the increased technical sophistication of services planned for the new wing, the independent physician model for service delivery will cede in order to integrate teams of doctors. The third wave of expansion in accommodation will provide capacity to treat medical tourists. Previously the owner had remained more sceptical about the possibilities for medical tourism, contending the institution was sufficiently busy treating local patients. However, the owner of the other corporate hospital is an important player, leading the drive towards the development of the industry in Kerala. Generally the owners of all super-speciality hospitals are keeping abreast of news in the medical tourism sector, although many remain sceptical and surprised by the thought of foreigners coming to Kerala for biomedical procedures. The following section examines the differences and similarities between this institution and the new corporate hospital, which started on a bigger scale with a higher technical set up compared to any previous institutions.

The Institute of Medical Sciences

Hospitals in India now think big. They begin from the drawings of architects of huge state of the art institutions, circulated in the local media, which materialize on a much smaller scale. The hospital was launched with what local people refer to as a 'big fanfare,' reflecting a degree of public cynicism amongst local doctors and the middle classes regarding health sector development. Since the hospital opened seven years ago, it has been hailed by its owners as a roaring success, attracting significant crowds of new patients who value the services and doctors at the new hospital. It is still not as busy as Doctor Memorial, but provides a more pleasant environment in which to consume health care. The mission and vision of the hospital is, "A Caring Mission a Global Vision," reflecting the institution's focus on international standards and the wider medical tourism market. Like other corporate hospitals in Kerala, the institution has produced a

[140] These additional services were added since leaving the field. Data obtained from the hospital's updated website (Accessed 9th July 2009).

videodisc, providing background information on the area, a tour of the institution, and also featuring men in traditional Arab dress. The institution aims to,

> "Provide Comprehensive, Caring and Cost effective Medical treatment of Global standard, through a team of highly qualified and committed medical professionals with state-of-the-art medical equipments."

Initially the hospital was built with only 300 beds, in comparison to the 450 specialist interventions listed in the glossy English language brochure. Thus the vision of the hospital is to concentrate on the latest technologies, rather than accommodation. This is also more profitable for institutions, as one ultra-sound scan taking ten minutes typically costs Rs 400 - equivalent to one night's stay in a relatively expensive hospital room. Room rates start at Rs 100 on the small general ward, which is full of patients. Private rooms start at Rs 400. In most hospitals only a small number of private rooms have air-conditioning, which are typically three times more expensive. The hospital provides air-conditioning in the main atrium and in the most prestigious departments and theatres. It is the first institution to provide a full generator service as backup in the case of a power cut, and a fully equipped mobile intensive care unit. However charges are in the region of Rs 10,000 so it is not put to good use. It is the first hospital to provide a fully equipped emergency department, although the work of this department is not fully integrated into the hospital, as most consultants are conducting outpatient clinics rather than being available to attend emergency cases.

The hospital is on the edges of the city, on the main road towards a neighbouring district with a particularly high concentration of Gulf migrants, and is the first hospital in the city approached when travelling from this route. The hospital is the only building in the city with a unique modernist architectural design, painted in the corporate green and white colours. It is approached by a drive that sweeps up towards the front door so patients can enter the reception hall by jeep. The institution has some wheel chairs for patients, but as in many hospitals they are not widely used. Entering the spacious air-conditioned hall of the hospital, there is a menu with a price list of diagnostic services and room rates. The corporate colours are used throughout the hospital, in diagrams in green and white, highlighting a particular part of the body system, so that patients can navigate their way along the corridors to the self-selected specialist departments. The spacious layout, plasma screens, garden atrium, and fish tank in the nuclear

medicine department, give the hospital a relaxed feel. The hospital has a large wellness centre housed in a separate area near the front reception desk, where patients can have executive health check-ups costing up to Rs 4,000 ($80). The clinic is filled with newly affluent Gulf migrants, often suffering from poorly controlled diabetes, blood pressure and cholesterol, like many consulting general physicians in other hospitals.

The institution was founded by Dr Abdullah, and financed by a consortium of NRI investors with other businesses in the Gulf. The local manager tells me the entire capital outlay for the project ($12 million) was recouped in only two years. This came as a surprise to the modest estimates of investors who expected it would take five years. This fact/ rumour has been circulated widely, but amongst the Muslim community, this has added to the feeling the hospital is exploiting people. Dr Abdullah has just been awarded the 'Best Doctor' award by the Government of Kerala, in recognition for his outstanding services to society. He is described as a professional with a philanthropic mind who strives to keep the commitment to provide quality and affordable health care to the down trodden of society. According to a local website Dr Abdullah is setting up a community dialysis centre to provide free and subsidised dialysis treatment to poor patients, personally donating 11 dialysis machines for USD $6 million. The institution has set up a charitable trust which has sponsored 80 coronary artery bypass surgeries. According to literature it has provided one crore of specialised treatment for surgeries, financially assisting over 2,200 patients since its inauguration, and 200 patients with congenital heart disease.[141] Although hospitals emphasise they have different charitable organisations, with the exception of one person who had received a free heart by-pass operation and several other patients I met who had been able to negotiate small discounts from different hospitals, there is little evidence of private hospitals conducting significant amounts of charitable work in extending care to the poor.

Like other hospitals, in marketing literature, the aim of the institution is to provide quality in health care to the 'common man.' Charges for outpatient appointments are competitive at Rs 120, but the cost of diagnostic testing is significant and integral to the daily practices of the hospital. Generally doctors recommend problems to be investigated with technologies before they are treated. The hospital has been built around higher standards by employing doctors with relevant expertise to conduct specialist work. However this is a

[141] 1 crore is Rs 10 million or USD $2 million.

more risky strategy, as doctors are unknown to the local population. Although corporate hospitals are commonly associated with Non-Resident Indian doctors, only a small number have been attracted back to this institution, who might otherwise not have returned. The hospital has integrated doctors into the organisation to provide more specialist forms of care, and doctors are not allowed to practice privately. Some doctors have welcomed this because it avoids the need to work longer hours and to develop a wider public reputation. However, the employment of doctors on a full time basis has increased the wage bill of the institution, in order to attract and retain highly qualified consultants. At the same time this has encouraged doctors not to participate in the informal economy of medicine - of rewards from pharmaceutical companies or referral fees. The most senior consultants have seats on the board and shares in the hospital therefore aligning the interests of key doctors with that of the institution (Enthoven 1980, Herzlinger 1997).

As full-time salaried employees, doctors are not financially rewarded for procedures performed. The hospital has therefore become the over-arching context within which medical practice is situated, encouraging doctors to look towards the institution's success within an over-arching corporate culture. One physician on the board of the hospital shared his concern that, "everyone is salaried-employees, so the management has a huge wage bill to pay, even if the department is making a loss. Touch wood we will continue to do well." Thus, responsibility is placed on doctors, to ensure returns for the institution and the relationship between the institution and the doctor is potentially one of a valued employee, who is rewarded over the longer-term for increasing the revenue of the institution (Peppin 1999). However, with the exception of doctors who have managerial responsibilities and shares in the institution, the hospital has had problems retaining local doctors and some doctors have not adjusted to the new corporate culture. For example, over 20 months of dialysis treatment, one patient noted their doctor had changed four times.

The hospital has also recruited some famous local doctors to conduct outpatient clinics, several days per week. These doctors work at different hospitals across the city and practice privately, receiving fees for the consultations conducted in the hospital. The hospital began promoting the Ear Nose and Throat (ENT) department as one of their most prestigious departments. They recruited a local doctor who was the first to perform a cochlear implant operation in the area. Several years later, the doctor left to set up his own clinic, which is now doing

well, but his departure has left a gap in the institution, as one of the few departments with certification to train graduates in the Diploma of the National Board (DNB). The local doctor set up his clinic, performing a cochlear implantation on two twins who were deaf at birth. The clinic has been a success and a famous institution. However many people consult this surgeon skilled in cochlear implantation for any type of problem, such as dizziness.

The ethos of the 'Institute of Medical Sciences' is to provide high technology, and doctors share that vision and ambition to practice high tech specialist medicine, while the institution provides the infrastructure to do so. In the outpatient clinic of super-speciality hospitals, doctors work with one or two medical technologies such as scopes for diagnosing illness and function tests for different organs of the body. In this hospital specialisms have been built as state-of-the-art units equipped with a wide range of the latest medical technologies, which are integrated into daily clinical practice. Medical decision-making in this context has shifted from the personal motivation of the doctor, to the doctor as someone who works with technologies. For example, I visit the ENT department as I have a pain in my ear. The highly skilled surgeon who has trained for eight years removes some wax and shows me my inner ear with his probe, which provides a live video-stream image. In many hospitals, although doctors have knowledge and the necessary set up to treat complex cases, many highly qualified doctors treat more mundane health problems.

The hospital works hard to build its corporate identity as a scientific authority amongst the medical profession as well as the wider public. For example, it produces a monthly newsletter with feature articles on medical problems, technical information on specialist treatments and procedures undertaken in the hospital, medical quizzes and photographs of recent events, circulated amongst the local medical profession. In its 300-seated air-conditioned auditorium, it holds regular continuing medical education programmes for doctors, to increase knowledge of different technical procedures, while also encouraging referrals to the institution. Many departments in the institution are working towards accreditation to provide post-graduate medical education courses. Since leaving the field, doctors from the UK have come to conduct training courses e.g. on basic and advanced cardiac life-support, costing in the region of Rs 7,000. The institution therefore functions to try to improve standards in health care more generally, rather than merely focusing on the treatment of patients. The activities

of the institution go far beyond profit and building market share, as medical education programmes add to the knowledge and capabilities of local doctors.

The leading department in the hospital is the cardiology unit. Both senior members of staff are on the board of directors and partners in shaping the future orientation of the institution. These doctors keep abreast with and discuss the latest business news in Indian health industry in everyday conversation.[142] The cardio-thoracic surgeon is continually coming up with new ideas and the hospital has regular board meetings to discuss future strategies and expansion plans. He wants to set up a referral unit on a neighbouring group of islands, to transfer emergency cardiac cases by helicopter to the city. Talk is of using tele-medicine to conduct consultations, to connect to poor patients in neighbouring rural areas. This is the third cardiac unit he has set up, initially training in Kerala, then moving to Australia before setting up two units in Bangladesh before moving back home. He performs two beating heart by-pass surgeries everyday in the hospital costing Rs 1 lakh ($2,000). He has put together a dedicated team of staff who look after patients from the time of their admission to their time of departure, providing counselling and care throughout the patient's stay. This indicates the ways in which visionary doctors are providing high quality care to patients, to help them through complex procedures. However the recommendation of by-pass surgeries is also a matter of controversy, the necessity of which is critiqued by other doctors.

The hospital employs six cardiologists who spend alternate days in the Cath laboratory and the other days seeing patients in outpatient clinics. In contrast to other hospitals where doctors have a fixed clinic, a signboard is only placed on the door when the doctor is conducting an outpatient clinic. Doctors have to move to different offices, or their offices are shared with other doctors rather than having a room, which they can make their own. I spend time observing the practice of a famous local doctor whose father was one of the first Muslim doctors in the area. His father established a small local clinic to serve the needs of the community, which still provides basic surgeries and care. He is one of the most famous people in the local community, who people want to come and see because his father has built up a lot of good will between the family and the local community. Although surgeries are performed by the doctor who has returned from overseas, people commonly think this doctor performs the coronary artery by-pass surgeries. He is known in the community because of this reputation

[142] For example, rumours the Peuguot car company is investing in health care in India.

rather than being known as an interventional cardiologist, who diagnoses coronary artery disease using angiograms.[143]

As specialists trained to perform angiograms, and to diagnose and treat heart problems, cardiologists follow the schedule of the hospital to carry out interventional procedures. Doctors spend three days in the outpatient clinics and the other three days performing angiograms in the Cath laboratory, that the organisation of work follows the routines of the hospital, generating a flow of patients between the outpatient surgery and the laboratory. The hospital has just introduced an appointment system so that each patient has ten minutes with the doctor. Following initial treadmill tests and ECGs, angiograms are routinely recommended for every patient with positive results from basic investigations. Hearts are seen as unpredictable organs and seeing the heart is valued in order to know the risk of having a heart attack and to suggest interventions to open any blockages. As a trained interventional cardiologist, his job is to identify the extent of coronary artery blockages, and because of high prevalence rates for coronary artery disease, the out-patient clinic and the Cath laboratory are generally filled with patients. An angiogram costs Rs 8,000 ($160). Although the doctor is trained to insert coronary artery stents, at a cost in the region of $4000, few can afford. Most work is diagnosis and referral for by-pass surgery if people have the necessary funds.

To mark the milestone of completing 500 coronary artery by-pass surgeries, the hospital is conducting 100 free by-pass operations over the next few years, for the poor and needy, and publicised in the local press. Candidates for by-pass surgeries are generally working men under the age of 60, who can therefore benefit by financially supporting their families, while also providing a lower risk patient group for operations. One of the first free surgeries is performed on the husband of a cleaner from another hospital. He is 42 years old and of a slim build. Before responding to the advertisement he did not know that he needed an operation. He went for a check up and his name was added to the list. While free operations were ongoing I call at Faridah's house. She lives with her mother and five children, while her husband looks for work in the Gulf. Her mother had recently undergone a heart by-pass operation, and despite the family's poor circumstances she did not qualify for the free surgery. Ten days after the operation she dies suddenly, leaving Faridah alone in the house with the children. I return to visit the doctor to explore the possibilities that something could be

[143] Based on five interviews with men from the Muslim community.

done to help the family. The doctor told me he remembers their poor situation, but assures me that the maximum discount was given at the time of the operation. The family paid Rs 90,000 ($1,800) receiving a 10 per cent discount for the surgery. He is critical of the woman because she took her mother to the local hospital in the middle of the night instead of coming to the institution. He tells me, 'if she had come here, maybe something could have been done.' The doctor was sympathetic to the situation, and uses his connections to find her husband a job in the Gulf.

The hospital has set up extensive referral networks, with a Muslim charity hospital, and has recently opened a secondary facility in a nearby town, to act as a feeder for the institution, with another institution to open soon. As the manager told me, 'Big fish eat little fish up – that's what they do,' reflecting the institutions ongoing ambitious plans for expansion. For referring doctors who recommend by-pass operations, 10 per cent is allegedly paid to the doctor, which amounts to Rs 10,000 per patient. Given that referring doctors know the large institution will make a profit, doctors are reluctant to send without receiving compensation for the loss of a patient. More generally doctors are reluctant to refer patients because it implies their knowledge and services are insufficient. The corporate strategy is to work with other institutions, to make networks between local hospitals and the institute rather than to depend on individual doctors. The strategy represents a shift from informal to longer-lasting institutional arrangements, in order to guarantee flows of patients. Less senior cardiologists also regularly travel to conduct outpatient clinics in rural hospitals.

For patients such arrangements can provide continuity of care, follow-ups and communication between higher centres and local doctors. It also means that care is provided according to logical hierarchies so that patients are not seeing an interventional cardiologist for every health problem, which can be adequately managed by a doctor in a local situation. On the one hand linkages represent the development of a similar structure to a planned health care system, in which patients can access care at different levels. However in a market system if institutions are pursuing their own interests, patients do not necessarily flow between higher and lower centres, unless patients are seriously ill. Therefore market-based incentives are important to ensure patients move from one centre to another, although not all doctors or institutions make monetary claims for referrals. This is also another important reason for corporate hospitals to expand into the periphery, to maintain referrals to the tertiary level hospital, rather than

having to depend on the referrals from doctors or other institutions. This contrasts with Doctor Memorial, which can rely on patients to travel to the institution because of the reputation of the local doctors. The final section examines the local mission hospital, introduced at the start of the chapter before concluding analysis.

The Christian Mission Hospital

The Christian mission hospital is situated on the outskirts of the city, on the main road towards Kerala's poorest district, which has the highest number of Scheduled Tribes and low levels of Gulf migration. The hospital is now managed by local nun sisters, who ask for a donation to sustain their charitable services for the poor. The hospital is set in spacious, peaceful gardens. A statue of the Virgin Mary forms the centrepiece in the neat flowerbed at the front of the extended driveway to the hospital. Next to the roadside are signs for the 24-hour casualty unit and the new CT scanner. Compared to the hustle and bustle of the super-speciality hospitals in the city centre, this hospital is quiet and serene. The infrastructure is simple, functional and immaculately kept, but not modern, unlike the stylised interiors of hospitals in town. The managing nun sister often scolds people for leaving fans and lights on.

The literature provided by the nun sister superintendent berates the commercialisation of medicine, in contrast to the institution's mission to alleviate the suffering of the 'common man', although the concept has shifted now to provide 'complete health care for the common man.' The mission statement of the hospital is "a healing mission with a human touch," and although the institution has a good reputation for its nursing care, it has lost patients and is gradually enhancing technology as a way for the institution to survive and possibly to grow. The website notes, 'we take pride in the fact that while the medical profession and medical education over the years has been commercialised to the hilt, we still uphold the medical ethics and moral values.' The informal charitable ethos of the institution, is 'robbing Peter, to serve Paul', and the hospital in the main attracts middle class patients (mainly Christians) and lower income Muslims families who come to take advantage of cheaper rates. The hospital charges middle class patients more for their stay and treatment, whilst minimising the cost to the poor. In its large general wards, beds cost Rs. 5, in contrast to super-speciality hospitals, which concentrate on private rooms. All patients in the general ward, which is less than half full, receive significant discounts. The core income of the institution is from routine general surgeries,

such as hysterectomies, and deliveries. Outpatient appointment charges are Rs 50.

The ethos of the institution is also embodied by doctors who are sensitive to the cost of medicine and treatment. Some of the doctors are nearing retirement, having spent some time working in the UK, which has enhanced their cost sensitivity because unlike the British National Health Service, patients in Kerala are paying for treatment. Senior physicians working in the hospital are salaried employees earning more than government doctors but much less than the salaries offered in super-speciality hospitals. The older generation of doctors are nearing retirement and do practice medicine privately, working with an ethos of social service. With the exception of the neurologist, who works across different hospitals and privately, doctors at the institution are generally less well known to people in the wider community.

Technologies have been gradually introduced into the institution, although the senior doctor is very critical. One day he angrily raises his voice at one of the nurses when discussing the case of a terminally ill alcoholic in the general ward when she suggests he should go for testing. He deplores,

'This man has spent his life drinking his family's money and now you want to suck their last rupees by charging them Rs 700 for a liver function test? *We know* his liver is not functioning'

The nurse, like many professionals and patients in Kerala has succumbed to the general logic that machines are important. The elderly doctor is of a different generation of general physicians, trained to use his clinical acumen to read the patient's body and purse. He frequently complains about the attitudes of nurses. Although the institution is famous for its nursing school, which represents its caring ethos, he feels today's nurses spend all their time reading charts and taking measurements rather than providing *real* nursing care.[144] He reinforces that people in Kerala will sell everything they have to get treatment for a relative. In the case of cardiac patients, a check with his stethoscope, the blood pressure machine, and an echocardiogram are generally sufficient. For most cardiac patients he prescribes medicines according to their purse and sends them on their

[144] I met one educated middle class family whose relative was in intensive care in a leading super-speciality hospital, who actually employed a private nurse to care for their relative while hospitalised. The quality of nursing care was rarely commented upon by patients, as most care is provided by relatives while in hospital.

way. Thus risk is played down, whilst his judgment is to minimise the cost to the patient.

Like cardiologists practicing elsewhere, this doctor's outpatient clinic is frequented by elderly diabetics and hypertensives with cholesterol, but he does not refer them for sophisticated investigations. He makes discriminatory judgments. More affluent patients receive branded medicines from multinational drug companies, whilst the poor get cheaper Indian pharmaceuticals. He reflects that he should write the generic name, but often lapses. The doctor focuses on treating the whole person, according to his/her social circumstances and not just the disease. More generally within the institution, medical decision-making is freed from machines and the financial interests of the hospitals, although the example illustrates how the logic of technologies have become an important value for young nurses. Thirty years ago, the hospital was primarily a TB sanatorium and maternity hospital, compared to its current status of basic super-speciality departments such as ENT and gastroenterology. The older generation of doctors is contrasted with newly appointed super-specialist consultants who are pressing the management for the technological enhancement of the institution's facilities.

The lack of patients is causing concern for the hospital management. Two years ago it invested in a CT scanner to complement the services of the neurologist, although unlike other hospitals it is used infrequently. The hospital has hired the services of numerous other super-specialist consultants, employed on a part-time basis, to reduce salary bills. A cardiologist, who recently returned from the UK, has been employed to set up a new Cath laboratory, with full facilities for interventional cardiology. The nun sister principal is looking for donations to contribute funds for the multi-crore investment, as the Italian order of nun sisters is not forthcoming. The hospital is reluctant to take out a bank loan, which would put financial pressure on how the technology is used. [145] Given the costs of the capital outlay necessary for the project, the hospital cannot charge significantly cheaper rates. The project is also shrouded in moral concerns. Meanwhile the nun sister expresses frustration at the growing number of patients that are referred to other hospitals. This hospital has become a marginal player in the

[145] The term 'mission' hospital can also refer to different ideologies of health care that other 'mission' hospitals have become more technologically oriented. This hospital's experience does not reflect the 'mission' sector as a whole. Other mission hospitals in India have become much more technologically oriented and some have expanded into medical education. Therefore the institution's dependence on external funding has also been an important constraint to improvements.

health care landscape, compared to its previous status as the second leading provider of specialist care after the government medical college.

The mission hospital is still an important place where the sick can die without technology, but with dignity and palliative care (e.g. for poor patients with cancer and chronic liver disease). However, patients are not as forthcoming because the hospital is not competing on the basis of technology or marketing its activities. The institution is also quieter because it doesn't pay referral fees to other doctors. Like most hospitals in the city, the institution relies on Gulf money, and the support of the Muslim community. Many poorer Muslim patients come to the hospital because it has a good reputation for surgeries at an affordable rate. The community base of Christians in the area is insufficient to sustain the institution, as another institution run by a Christian has come up in town. Due to its location, it has been forgotten by many people, as the area is not a busy route from the city. As Dr Balakrishnan describes the situation,

> "Nowadays it's difficult to stay as a lower centre. All these diabetic patients are coming along with serious complications, so if we don't start doing all these specialisms, people will have to get referred. With the Cath lab, they did a calculation, and it is hoped they can break even. We have to wait and see. Before the beds were full in the general wards – now only in the private rooms – word will get around that if you go there, they don't have this or that, so you have to get referred, so what's the point of sending them - they will stop coming. It is very difficult to stay at the primary level – you have to keep upgrading – all these small family owned hospitals will disappear – you can't survive without it."

Poverty levels in Kerala have decreased, the spending power of people has gone up and the disease profile of most patients who can afford to pay for private are those suffering from chronic conditions. Meanwhile the poor in the neighbouring district do not have sufficient funds to travel and pay for health care and rely on overcrowded facilities in the government sector at the local level or the medical college. Many educated middle class patients still remain faithful to the institution and its values, and are skeptical about the activities of other hospitals, emphasised to me by several patients. While other hospitals are busy conducting health camps, paying referral fees, marketing the institution, and employing famous doctors, this hospital sits and waits for patients to come. The hospital

can provide facilities at reduced rates and patients will come, but the success of the institution is still in doubt.

Conclusions: Shifting Models of Health Care?

Hospitals, like other businesses and institutions come and go, each having its golden age before something new, bigger and better comes along. At present, expansion on an ever-grander scale is occurring as two hospitals compete, while other institutions respond to maintain market share. In this context the corporate model has become dominant because it has shaped the development of the other hospitals, and represents a new model of health care by integrating doctors and technologies into the hospital. Although the new corporate hospital has introduced new standards in patient care, it is not doing as well as one might expect. Its hyper-modern interiors and technologies have introduced a new concept in hospital care, which many local people see as excessive and not suited to the needs of the common man. Although hospitals are promoting ideas of luxury through changes to the built environment and international standards, each hospital retains the discourse that institutions are providing services for the 'common man.' This illustrates the double framing of health care as a commodity marketed at consumers, and as a social service for the 'common man.'

Despite the attempts of the corporate hospital to build a different model of scientific health care amongst the medical profession and the local population, the this institution receives most criticism, in particular from educated members of the local Muslim community, who expect businessmen and doctors to behave with benevolence in charity and social service (Osella and Osella 2009). While I heard many stories of poor experiences and standards of care from other institutions, the new corporate hospital is critiqued in general terms. The following comments reflect the general disquiet amongst men from the Muslim community.

> "It's NRIs coming back and investing money and charging for all this scanning and testing for profit."

> "It's a hospital with machines, there are no good experienced doctors there."

Although standards in health care are generally higher than most other institutions, and the hospital could fulfill an important role as a tertiary referral centre, it is not generally regarded as an institution which has improved

standards, relative to the actual improvements of standards of medical care provided by the institution, at rates similar to other hospitals. Amongst the educated middle classes, ideas are slowly changing, as more people realise the institution has higher capabilities than other centres. For others, who spoke highly of the institution (outside the Muslim community), it was their personable relationship with the doctors they valued. Others who have been hospitalised with serious illnesses appreciated the greater medical expertise available at the institution. The superficial embellishments of the 'luxury' hospital – sofas, plasma screens, bow tie waiter service, may have actually worked against the hospital, because it is seen as excessive, rather than an institution which has introduced higher standards in health care. Furthermore because the institution is seen as being run by Non Resident Indians, technologies are critiqued as a new form of exploitation, whereas Doctor Memorial is regarded as locally run hospital, with famous local doctors. Therefore rather than patients being able to interpret and to willingly accept ideas of global science and technologies, the most successful hospital and ideas of standards in health care reflect local cultural values of former government doctors, whose knowledge of medicine has increased by seeing the most number of local patients.

Although markets produce norms and values, the extent to which institutions are embedded within local communities and values, and the relationship between hospitals and doctors are critical in shaping patient flows and ethical orientations. In the case of the community super-speciality hospital, it has regular flows of patients due to its convenient location next to the train station and a local residential area, thus reducing the necessity to market its services and the wider development of formal referral networks. In the case of super-speciality A, the institution has promoted the values of medicines and technologies, while earning revenue from other educational institutions. The mission hospital has declined owing to its lack of wider stakeholders, given the small Christian community, its position near poorer areas and its ethical framework, in refusing to pay doctors for referrals. Meanwhile other hospitals depend upon the fame of local doctors, or referral networks to maintain patient flows. The expansion of the corporate hospital into rural areas is important for the institution to fulfill its role as a tertiary centre and to maintain market share because it is using a different business model, which attempts to replace the value of local doctors with appeals to global science, and in placing restrictions on physician autonomy. Although marketisation has led to the adoption of similar practices as institutions compete by upgrading infrastructure, interiors and technologies, commodification has not

radically altered the embeddedness of hospitals in particular localities, communities and the value of local doctors. The next chapter further examines how markets produce values by examining the history of medical technologies and the diffusion of new 'luxury' technologies. It uses the case study of the CT scanner, as the single most important technology to have captured the public imagination, as a new standard in health care.

Chapter 6:
Thinking Through CT Scanners: The Value(s) of Imaging Technologies

As Hedrick (cited in Lourdusamy 2004:1) notes,

> "In their brief domination, the Europeans passed onto people in Asia and Africa their own fascination with machinery and innovation. This has been the true legacy of imperialism."

The marketisation of health services has led to the proliferation of scanning centres and the integration of advanced imaging technologies such as CT scanners, MRI machines, and Cath laboratories into the hospital and everyday popular therapeutics. This chapter explores the complex set of values and interests leading to the rapid diffusion and adoption of high tech diagnostic technologies, and their normative sanctioning in everyday medical practice. It traces the history of medical technologies through x-ray, ultrasound and CT, to explore the ways in which diagnostic machines have transformed medical work, the marketplace and local values in health care. Specifically it focuses on the rapid diffusion of CT scanners as the first 'luxury' technology to have captured the diagnostic imagination, which more recently has been followed by MRI machines and Cath laboratories. Although the reason for the rapid diffusion of CT scanners provided by the medical profession is often 'profit motivated,' the chapter examines how under conditions of marketisation, technological diffusion acquires its own logic, as a sign and symptom of the workings of a competitive marketplace.

Imaging Values

Imaging technologies are probably the most important innovations to have revolutionised modern medicine globally over the last thirty years. Through advances in radiography, ultrasound, and information technology, modern diagnostic techniques have rendered the interior functions and slices of the human body visible on film, video, and computer generated images. Modern medicine fits Susan Sontag's observation that a society becomes modern when its principle activity is the production and circulation of images.

> "Images have extraordinary powers to determine our demands upon reality and are themselves coveted substitutes for firsthand experience, becoming indispensable to the health of the economy, the stability of the polity and the pursuit of private happiness" (Sontag 2002:24).

As contemporary medical practice becomes increasingly specialised and the use of imaging techniques becomes part of the everyday lifeworld of the medical marketplace, the production and circulation of images of technologies, images of the body, and the image value of working with and consuming scans has become integral to the knowledge and consumer economy of medicine in Kerala. Continual advances to machine functionality and improvements to the quality of images produced by diagnostic technologies have become a significant dynamic, driving processes of commodification and increasing the cost of health care.

In Kerala, ultrasound, invasive scopes, Computer Axial Tomography (CT), Magnetic Resonance Imaging (MRI), and Catheterisation Laboratories (Cath labs) have become common features of the health care landscape, found in corporate and super-speciality hospitals and specialist scanning centres. Although many still sense that India is 'catching up,' in medical technologies, India is one of the first overseas markets where new imaging machines are introduced. For example, the 64-slice cardiac CT scanner was reportedly introduced by a private hospital in Kerala, six months after its launch in the United States. Furthermore, in November 2008, Apollo hospitals inaugurated the first 320-slice CT scanner in India, as one of only seven machines available globally, marking a new threshold in minimally invasive cardiac imaging.[146]

India's status as a key global market for imaging technologies reflects the recent development of the radiological outsourcing business and the popularity of radiology as the foremost specialism within modern medicine.[147] In Kerala, scanning technologies have been central to the success and widespread popularisation of 'super-speciality' medicine. However as a result of competition between different service providers, medical technologies have been rapidly diffused, leading to the duplication of expensive technologies, particularly in

[146] The use of the 320 slice cardiac CT machine will compete and could replace the use of angiogram in the diagnosis of coronary artery blockages. The scanner also marks another threshold in the cost of imaging, at Rs 20,000 ($500) per scan compared to Rs 8,000 ($160) for a conventional angiogram.

[147] The radiological outsourcing business is expanding in neighbouring Bangalore. Scans taken in the United States or United Kingdom can be sent to radiologists in India, to provide radio-diagnosis services twenty-four-seven (See Levy and Hu 2006).

urban areas (Blume 1992). In the fieldwork site, there are currently five MRI machines, (two of which have been installed in the last year), ten CT scanners and five Cath (catheterisation) laboratories providing services in interventional cardiology. An additional Cath laboratory is also in the planning stage, and the rapid pace of technological procurement of large-scale infrastructure by different hospitals is ongoing.

The CT scanner is the first 'luxury' technology to have seemingly captured the public imagination. At present there are currently 70-90 machines found in urban and rural areas of the state,[148] while in neighbouring Chennai, one leading doctor estimates there are 64 machines. By comparison, a city of similar size, Toronto in Canada has 3-4 machines.[149] Although entrepreneurs in the private sector are pioneering investments in 'luxury' technologies, machines are also being acquired by hospitals across the mission and government sectors. Despite the significant disparities in service provision between private sector hospitals and government facilities, greater access to scanning technologies is the most important health 'inequality' being addressed.[150] A new MRI machine was recently acquired by the local government medical college, despite the fact that there are two other centres nearby.[151] Local government doctors, members of the public and the media have generally supported the acquisition, reflecting wider public opinion that the governments' technological facilities should keep pace with developments in private sector hospitals, and the way in which technologies have become appropriate symbols for large-scale institutions. However because of the high cost of machines, cost-recovery mechanisms are vital to the 'non-profit' sector. Outside the 'for profit' sector, scanning facilities can therefore only be provided at marginally reduced rates - for example the BPL rate for an MRI scan at a private hospital is Rs 2,800 ($56) compared to charges of Rs 2,500 ($50) in the government sector.[152]

The preference for markets in health care has accompanied concerns about global and local trends towards commercialisation, corporatisation and the marketisation

[148] Based on interviews with four radiologists.
[149] Dr George (Editor of the *Indian Journal of Medical Ethics*), speaking at a conference on Medical Ethics organised by the Students Islamic Organisation of India, Kerala Zone, Ansar Campus Thrissur, Kerala 11th March 2006.
[150] Investment in technology and large-scale infrastructure in the government sector also reflects financing arrangements that loans are available to finance capital equipment, for example through the Asian Development Bank.
[151] This also means the centre can be recognised for its post-graduate qualifications in radiology, as familiarity with MRI is now necessary for recognition of degrees by the Medical Council of India.
[152] Based on figures quoted in Indian Express Newspaper (Jyothisree T.K. 10th July 2006).

of health care (Baru 2003, Barnett and Brown 2004, Holden 2005, Mackintosh and Koivusalo et al. 2005). While competition in health care is argued to promote the efficient use of resources (Enthoven 1980, Herzlinger 1997), the rapid diffusion of technologies reflects the ways in which markets produce dominant values, fashions and trends in service provision (Lepinay 2007, Fligstein 1996, Granovetter 1985). Following Appadurai's (1986:16) definition of a commodity as an 'object in motion,' the chapter employs a methodology to study the social life of imaging technologies, to explore the processes through which machines acquire value and meaning to different stakeholders in the health care economy. While economic factors, the values of different doctors, hospitals and the marketing of technologies to the lay public have been important in normalising the everyday use and value of technologies, an approach which focuses on the use and exchange value of commodities creates a false dichotomy between these two forms of value (Taussig 1980). By examining the social life of the CT scanner, the chapter explores the processes by which CT scanners have become meaningful values for hospitals, doctors and patients, emphasising the importance of the symbolic value of the machine in assisting its rapid diffusion.[153]

Marketisation and the History of Medical Technologies

Between 1996-7, taxation rates on medical technologies were dramatically cut from 120 per cent to 30 per cent, attracting further interest in the Indian market by multi-national technologies companies (Baru 2003). Although this has led to the instalment and integration of more sophisticated machinery across many specialist fields of medicine, from intensive care units to state-of-the-art operating theatres, the diffusion of diagnostic imaging technologies has been the most notable and widespread application of recent medical advances. As diagnostic technologies have more general, amorphous applications to 'rule out' possible pathologies, diagnostic machines have become a profitable and low risk

[153] This chapter combines observation and interviews conducted across the rural and urban health care market. I interviewed the owner of one scanning centre who owns two CT and MRI machines in the city; one rural radiologist working in a small hospital with CT and ultrasound; one radiologist working at a corporate hospital in Cochin; four interviews with technicians conducting ultra sound in hospitals and clinics; two interviews with the owners of small diagnostic laboratories providing x-ray. This is combined with observation and interviews in general medicine across various institutions; observation in the scanning department of one large hospital; observation in two scanning centres within large hospitals (run independently by doctors); observation in a state of the art hospital in a rural area conducting foetal scanning, amniocentesis and infertility treatment; a new state of the art centre independent scanning centre; interviews and observation with three neurologists; and observation of echo-cardiograms in a large hospital. Of relevance to this chapter on the value and experience of going for scans, patient perspectives are largely absent as I was not able to obtain much information on the value of scanning to people beyond the value of the idea of 'checking' reflecting information asymmetries.

area for investment, to assist or in some instances to replace the clinical skills doctors in the diagnosis and treatment of illness. Diagnostic technologies therefore democratise the application of more advanced techniques to common health problems so that any symptomatology, such as an abdominal pain or headache can be immediately investigated, commonly cited by radiologists as an advantage of the system.[154] Although many doctors continue to rapidly check long queues of patients with stethoscope, pulse, looking to the eyes, and using blood pressure machines etc., in new hospitals it is technologies which now screen and check patients, as a 'modern' method of knowing a patient's state of health or ill-health.[155]

To many local doctors, including radiologists, the widespread diffusion of 'luxury' technologies is often bracketed as a 'business' matter and left further unexplored. On the one hand, the simple answer reflects the importance of investors in the health care sector, the seeming profitability of scanning, the willingness of doctors to refer patients, and the consent of patients and their bystanders to pay money to undergo these investigations. On the other hand, the bracketing of the issue as a 'business matter' reflects the reluctance of some doctors to discuss the relationship between medicine and profit; the fact that CT scanners have become an inexplicable way of life for the health care system; and the complex myriad of factors that have revolutionised medical knowledge and practice, and treatment seeking behaviour over the last twenty years.

During the 1990s, medical technologies became an important part of popular therapeutics, as items displayed on signboards outside hospitals, discussed in health magazines and specialist programmes on television. Imaging techniques such as colour doppler, MRI, angiogram, 4-d ultra-sound, endoscopes etc. have become part of general awareness of modern medical therapeutics, as new machines become important selling points for hospitals within the competitive health care market. Technologies have become important values in communicating the expertise of an institution to the lay population. By comparison in the UK, imaging technologies are generally enclaved mentally and physically within an expert medical environment. However, in Kerala as a result

[154] Coming from the UK, doctors were keen to stress the advantages of the system in Kerala that problems can be immediately investigated, compared to the gate-keeping and lengthy waiting lists which characterise perceptions of the health care system in the UK.

[155] This discourse of progress and modernity is promoted by radiologists because technologies can know more about the state of disease, but it is not referred to by patients and only to a limited extent by other doctors – for example, in describing how the spread of disease, such as cancers has speeded up.

of media representations and advertising, high usage rates and information asymmetries between doctors and patients make objects an easy form of biomedical communication, and awareness of machines has dramatically increased, as proxies through which patients can judge the quality of care available at an institution. Visual technologies have become powerful and persuasive because they have been 'put out there' as something valuable and hence desirable. Technologies have invigorated the scientific imagination, speaking of the power of western science, carrying with them the promise of better health care.

X-rays and Clinical Medicine

The health care market has changed dramatically since the 1980s when x-rays were the only major imaging technique available.[156] As a relatively inexpensive diagnostic tool, conventional x-ray had neither the prestige nor general applicability to image different parts of the body to transform medical practice. Currently costing Rs 50-70, the x-ray did not provoke a considerable conflict of interest between clinical and economic factors, as a relatively affordable technique. In addition to hospital usage, x-rays also became more widely available in small diagnostic laboratories, owned by medical technicians and run in conjunction with other basic diagnostic services, such as blood tests and electro-cardiograms. Inside contemporary hospitals, x-ray machines remain fairly invisible, housed in small rooms operated by technicians, normally physically separated from other imaging techniques. X-rays are no longer seen by contemporary radiologists, who generally work exclusively with CT and MRI, particularly in higher centres. According to radiologists, the reasons why they no longer work with x-rays include, 'clinicians have sufficient skills to read x-ray, if they have any doubt they can come'; 'radiologists have no time to read x-rays nowadays;' or 'it is a business matter.' In the UK, the x-ray is a primary investigation still interpreted by radiologists, so radiologists of Indian origin are often required to read x-rays while working overseas.[157]

In India, x-rays are still prescribed as a basic investigation - as part of a medical check-up before an operation, and as evidence sometimes used to provide a basic

[156] It is unknown precisely when the first x-ray machine was introduced into India. One account is that the first x-ray machine was imported by a chemist in 1902, only seven years after the discovery by Röentgen. Other accounts put the date much later. An x-ray was first installed at Lady Hardinge College in Delhi in 1918, and a chair in radiology established in 1923. Major General S.K. Dhawan of the Radiology Education Foundation (REF). Article available at http://www.refindia.net/rindia/history.htm, Accessed 9th July 2009.

[157] Based on interviews with five radiologists, one of whom regularly works in the UK.

record of the patient's state of health. The x-ray is firmly embedded within clinical medicine, used by general physicians, older generations of non-interventional cardiologists and chest specialists, primarily in the treatment of tuberculosis. Patients are sent for x-rays within the same institution, and then return to the doctor's surgery during the same morning or afternoon outpatient clinic, so the doctor can immediately use x-ray results to inform treatment. As a basic skill acquired by doctors during medical training, the x-ray is an image that can effectively communicate knowledge between all members of the medical profession. Accurately reading an x-ray is an acquired skill, which accumulates over years of clinical practice. In general medicine, the x-ray image is interpreted and the findings are used in conjunction with a case history, clinical examination, and other simple, inexpensive diagnostic tests, such as blood tests. However, as new technologies come, the considerable skill necessary for doctors to accurately read x-rays is gradually decreasing as other technologies become popularised and as knowledge of diagnostic technologies become the expert domain of radiologists. To a certain extent, new diagnostic modalities are replacing x-rays, as images with greater visual clarity as CT and MRI become more widely available, although most doctors have not received formal training to read these images.[158]

Ultra-sound and physician using technologies

During the late 1980s, the ultra-sound machine was the first significant evolution in diagnostic techniques, as a physician using technology (Blume 1992). In the mid-1980s, when the technology was first introduced, a sonologist used to travel by overnight bus to conduct scanning at weekends, or if doctors were unsure about treatment, some cases were sent to neighbouring Coimbatore. The technology became more widely available during the late 1980s and early 1990s, as one of the first technologies to become more widely diffused following tax concessions on medical equipments. The introduction of ultrasound is important to the history of imaging technologies as a technique that first defined scanning as a separate slice of medical work. In contrast to the standardised shot for the chest x-ray, that requires only technical expertise in the image-making process, radiologists or sonologists conduct all ultrasound-scanning procedures.[159]

[158] This will become more important if younger generations of doctors do not maintain and develop the necessary skills to effectively read x-rays, and if consequently the x-ray becomes viewed as 'out-dated.' At present this process is at an embryonic stage.

[159] To become a radiologist doctors study for a three-year post-graduate qualification. Radiologists are more commonly involved in performing ultra-sound investigations in general cases. Many doctors with the basic MBBS qualification work as sonologists, using ultra-sound scans for pregnancy cases. These doctors have attended courses or received

Although x-ray images are interpreted by the treating physician, the principle job of the radiologist is to work with the technology, to describe observations and produce reports. Ultrasound therefore first separated the production of medical knowledge from its application in the treatment of patients, reducing the value of the clinical history and physical examination as forms of authoritative knowledge (Phoon 2000, McKinlay and Marceau 2008).

For patients, medical technologies have transformed ideas of modern medical care, shaping the movement of patients around the health care system. The use of ultrasound in pregnancy was important in popularising the routine application of scanning technologies to 'well' patients, valued so doctors can 'see on tv.' As women often consult doctors privately, ultrasound was important in popularising the idea of scanning as a separate part of medical care, requiring visits to specialist centres. Although technology is often seen as time-saving in the early identification of pathologies, scanning requires patients to go to a centre, possibly on another day, and then to return to the referring doctor at another time. If there are no findings from the scan, this can increase the amount of time it takes before actions are made in the clinical management of a case. Therefore in some cases referrals for scanning may take three days from the initial consultation, scan and re-consultation, therefore increasing the time before symptomatic patients receive medicines.[160]

Although scanning has become a value for patients reflecting belief in the authoritative knowledge of machines, the actual process of scanning is not something people particularly enjoy.[161] Pregnant women are extremely passive and many appear anxious during the scanning procedure, during which time they are normally unaccompanied by bystanders, who wait outside. Rather than participating in the process of scanning, women obey the instructions of the doctor, generally looking away from the screen while the procedure is performed (cf Taylor 2002, Draper 2002).[162] Although occasionally the doctor may involve the patient by showing the foetus to the woman, this is not generally expected or

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some formal or informal specialist training in ultra-sonography. Many work running their own specialist centres as separate units within hospitals or independent scanning clinics.

[160] Scans are commonly used to identify stones (calcium deposits), a common problem found in the kidneys, pancreas, gall-bladder and bladder. Therefore while patients are sent for scanning the painful symptoms suffered may not be relieved, reducing patient satisfaction.

[161] Based on observations in five ultrasound clinics.

[162] A common theme in the literature on foetal scanning in western countries is the ultrasound as a 'social event' that facilitates bonding between the mother, father and foetus (Draper 2002, Taylor 2002).

particularly appreciated. Scanning is valued as the expert domain of the doctor to check for any abnormalities.[163]

For some general physicians, the ultrasound is regarded as the most important diagnostic technology, assisting in the identification and treatment of pathologies in the major abdominal organs of the body, such as the liver, kidney, pancreas, gall bladder and studies of the urinary and vascular systems. Taking around ten minutes to complete at Rs 400 ($8) per scan, the technology is reasonably inexpensive and because of its application in pregnancy, it has been extremely profitable.[164] For general clinicians, ultrasound is regarded as useful, to confirm a clinical diagnosis or to immediately rule out more serious problems. It is particularly useful in the identification and subsequent planning of treatment for the removal of kidney, gall bladder or pancreatic stones. Although CT scanners can also be used to image the abdomen, ultrasound is still generally preferred as a less costly technique.[165]

There are many ultrasound centres dotted across the city and within some hospitals the scanning unit is run and managed by individual doctors. Some centres offer ultrasound along with CT. Other units offer only CT and MRI. In hospitals with CT and MRI units, ultrasound is housed in a separate area of the hospital. In some hospitals and scanning centres regularly dealing with the referral of seriously ill patients, the radiologist will see the patient, plan the study, and work with computers to select and interpret images as the CT or MRI study is progressing.[166] In other centres offering ultrasound and CT, radiologists work primarily with ultrasound, and then read and report on the CT image, so that technicians primarily supervise the process of scanning and the production of the image, while radiologists look at the case after the scanning has been completed. In this instance the radiologist has minimal or no interaction with the patient and does not supervise how the scan is done. Therefore across independent scanning

[163] Lack of patient involvement in scanning also characterised the early days of foetal scanning in the UK, until the screen was eventually turned around to show patients images (Draper 2002).

[164] It is generally advised that women undergo three scans during pregnancy and this tends to be the case amongst most women. However if the pregnancy is seen to be risky, it is also common for women to have more frequent scans and one consultation per month, increasing towards time of delivery. By comparison in Vietnam researchers found women were having an average of 6.6 scans and 8.3 antenatal visits, while one fifth had ten scans or more (Gammeltoft and Nguyen 2007). Cf Van Hollen (2003:111) who found that poor women in Tamil Nadu that only a few women have ultrasound in government hospitals at a cost of Rs 10, when deemed medically useful.

[165] Based on interviews with four radiologists and four general clinicians.

[166] The reputations of different scanning centres varies. Some centres are busier with serious cases (e.g. cancers), referred by doctors because of the reputation of the radiologist working there.

centres the quality of the work conducted and the seriousness of cases vary considerably.

Radiologists generally produce detailed reports describing all their observations, which are then given to patients, who take the results to the referring doctor. Radiologists describe all findings from the imaging process. Reports therefore contain insignificant findings and much information is not ultimately useful to the clinical management of a case. How it is applied depends on the results and the decision of the treating physician. Reports are the medium through which radiologists communicate with referring doctors so that in most cases there is no communication between the doctor and the referring physician. While many doctors have not received formalised training in reading newer imaging techniques such as MRI and CT scans, there is variation in the extent to which doctors rely on the report of the radiologist, interpret the scan themselves and ultimately how these findings become translated in the clinical setting. Clinicians often discuss cases by looking at the scan themselves rather than depending on the radiological report. If a scan is being taken for screening purposes, 'to rule out' the possibilities of more serious pathologies, the majority of results are normal and therefore there are no clinical applications. In the case of a CT scan of the head, it is not uncommon for 9 out of 10 cases to have no significant findings.[167] Therefore the medical usefulness of the image ends once the radiologist writes the report and the patient returns to the referring doctor. In the case of CT and MRI, as newly prized items, doctors enjoy taking the images out and looking at the clarity of the impressive image while on ward rounds if patients have taken a scan.

The introduction of ultrasound and CT transformed medical work as scanning became defined as the separate domain of radiologists, while for general clinicians the technology was beneficial to confirm a diagnosis or to 'rule out' possible pathologies. From interviews with several general physicians working in the private sector, scanning is viewed as adding 10 per cent of certainty to confirm the 90 per cent certainty achieved through the clinical history, physical examination and basic blood investigations. Technologies have therefore become important in satisfying the clinician's desire for greater medical certainty (Kassirer 1989, Muraleedharan 1999). Meanwhile general physicians maintain that technologies are valuable in complementing or confirming a provisional diagnosis based on clinical findings. The extent to which general physicians refer people for

[167] Based on the estimates of three technicians.

scanning varies considerably and those I worked with in private hospitals did not regularly send patients for scanning, depending mainly upon their clinical skills.

The x-ray technology and its image has not changed over recent years, compared to the rapid innovations characterising improvements to the functionality and specifications of ultrasound and CT machines (although since leaving the field digital x-rays have also been introduced in the medical college). One general physician (not using technologies) compared the continual innovations in machines to car models that every year things keep on coming out and then the machine becomes out-dated. The quality of ultrasound scanning has continued to improve. Machines introduced ten years ago provide basic images, compared to the number of gadgets and functions of the latest machines. New institutions have purchased state of the art machines, although there is a sizeable market for second hand machines.

New machines have audio to listen to the foetal heartbeat, graph functionality, and endless possibilities for calculative measurements – lengths, speed of blood flow, density volumes, heart beat calculations etc. Sonographers and radiologists now have a considerable amount of choice in deciding what types of checking procedures are used. Most basic machines have Colour Doppler making the volume, direction and strength of blood flow visible in multi-colours. The latest machines have added 4-d ultra-sound, an evolution which reflects the ways in which medical technologies have incorporated consumer values into the technology, providing a browny-yellowish life-like video of the baby in the womb (Taylor 2002). Although one centre has minimally marketed photographs of the baby's first picture to patients, the idea has not been popularised. Radiologists and sonologists note that the extra image has no value in their professional work that they can see everything they need to by interpreting the grainier images of the 3-d mode. Ultrasound technology has also been applied to the heart in echocardiograms, a procedure costing around Rs 800 ($16) compared to ten times this amount for invasive angiograms, now commonly used as a result of the expansion of interventional cardiology and the greater visual clarity achieved through angiogram techniques.[168]

[168] Angiograms are performed in CAT laboratories by interventional cardiologists who insert a catheter into the coronary artery. The catheter then releases a contrast dye to make the flow of blood through the coronary arteries directly observable by video.

Conclusion: The Value of Ultrasound

Ultrasound was significant in first expanding the parts of the body that can be imaged by technologies, hailed by some doctors as the most important invention of modern medicine. Alongside blood and urine tests, and ECGs, ultrasound was a considerable element adding to medicine becoming a process. For patients it first introduced contact with radiologists or sonologists for scanning as a separate part of medical care, compared to the doctor as a fixed point for the dispensing of medicines. In pregnancy care, the technology was most important in shaping ideas and practices of the application of technologies to 'well' patients, thus facilitating the wider adoption of other technologies, the idea of checking and normalised movement of patients between different specialist centres. As many pregnant women consult doctors privately rather than in hospitals, it was the first technology to increasing flows of patients around the health care system, moving between different centres to do scans. Unlike the x-ray, which has become somewhat out-dated, ultrasound has kept apace as an important diagnostic modality, which has not lost out in imaging of the abdomen, even though higher technologies are now available. This is because many doctors minimise the cost by referring people for ultrasound rather than CT in the case of stones. It has also evolved into a highly sophisticated technology and popular with radiologists or sonologists skilled in using the latest machines, while older generations use basic machines. The ultrasound has remained as a prestigious technology in the expert hands of doctors, compared to the job of scanning, which in the UK is commonly conducted by specialist technicians. The following section examines the diffusion of CT scanners.

The 'Whole Body' CT Scanner

Computer Assisted Tomography or the CT scanner was originally developed in 1972, by the engineer, Godfrey Hounsfled and the physicist, Allan Cormack. Initially developed as a brain scanner for the head, the new technique was considerably safer than the risky procedures previously available for cranial imaging.[169] Unlike conventional x-rays and ultrasound, the CT scanner could generate images of the brain, thus marking a significant advance in the scope of imaging techniques.[170] However, the CT technology quickly became more than a brain scanner. Within two years, the 'whole body' version was developed, and without such obvious indications, became one of the most rapidly diffused

[169] For example, pneumonencephalography that involved injecting air into the brain (Blume, 1992).

[170] Amongst doctors it was common to refer to the brain as the 'black box,' because before the invention of CT, interior images could not be produced.

modern technologies (Blume 1992). Although the machine was initially developed in the laboratories of Electrical and Music Industries (EMI) in the UK, other companies such as General Electric and Siemens were instrumental in transforming the technology into a global commercial success.

As a technique that can be applied to effectively image most parts of the body, the 'whole body' CT scanner has had amorphous applications, considerably assisting its rapid adoption. The word *tomography* derives from the Greek '*tomos*', meaning 'slice' or 'section' and '*graphia*,' meaning 'describing.' By displaying variable densities, the CT scan can generate images to differentiate between different organs and substances in the body, then assembled by computer to produce cross-sectional slices of the body and organs, adding depth, perspective and clarity to images compared to the shadowy images of conventional x-rays (Pasveer 1989). Some of the most important applications of the technology are for seriously ill patients, following strokes, serious head injuries, and the progression of cancers, where imaging techniques can add significantly to knowledge and treatment of pathological processes (Lisle 2001).

For the health consuming public, an important value of the CT scanner has become the early identification of tumours, an idea that has considerably increased its consumer appeal and marketability to 'well but worried patients' in the United States (Biswita 2003). The idea of the body scan is an appealing one, inspiring belief in the powerful gaze of the modern medical machine, a place where science fiction morphs with reality, as bodies are mechanically imaged. Although the 'whole body' version exists in name and the imagination, in reality, the technology is applied to scan particular sections of the body - the head, chest or abdomen.

CT scanning is revered as a technique, which reveals an objective truth-value about the state of pathologies in the body. However CT scans can commonly reveal ill-defined abnormalities caused by patient movement during the scan (Hawnaur 1999), deposits of calcium or fats (Lisle 2001), and other technical/machine factors that produce 'artifacts' in the image. The CT scanner is therefore capable of producing results that are mis-diagnosed as pathologies, or can lead to more risky and costly invasive investigations of benign abnormalities or machine generated artifacts (du Plessis et al 2009, Biswita 2003). Although the image is effective in differentiating the density of substances, it cannot distinguish between pathology and non-pathology. Therefore in normal patients,

scanning may create 'medical problems' requiring more risky interventions compared to the smaller possibility of detecting a malignancy in a-symptomatic patients (Biswita 2003, Illes 2004).

Concerns over 'false' positives have also been accompanied by apprehension of the consequences of significant increases in diagnostic radiation exposure (Eaton 2005, Birnbaum 2007).[171] Medical evidence therefore cautions against the usefulness of the application of CT as a screening technology, while highlighting the potentially negative implications of over-use (Biswita 2003, *BMJ Editorial* 2007, Birnbaum 2007).[172] In Kerala, radiation exposure is not an issue raised by either doctors or patients, although several doctors mention the possibility of false positives from CT scanning.

The Diffusion of CT Scanners

At present there are now about 6,000 CT scanners installed in the United States and about 30,000 machines worldwide.[173] The first CT scanner was introduced in Kerala in 1984 in a private centre. By 1995, there were 26 CT machines (Abraham cited in Kutty 2000).[174] At present there are between 70-90 machines found in stand-alone scanning centres, small private hospitals and larger super-speciality hospitals across rural and urban hospitals. New machines cost Rs 2.5 crore ($500,000), while some smaller rural centres have acquired second-hand machines ($50,000). The technology has come to symbolise the recent transition from the health care sector as a cottage industry into a large-scale industrial enterprise. Launched as the 'Whole Body CT Scanner,' the stunning white technology has become an important icon in the visual literacy of modern medicine, and one that is rapidly replacing the stethoscope and the white coat of the doctor as the new mnemonic of the health care industry. The CT scanner has become an important symbol of high tech medical care and development. In the fieldwork site, all major hospitals have acquired the machine, a symbol seen as 'appropriate' for any large hospital.

[171] Refer to Biswati (2003) for a discussion of the costs, benefits and control of radiation exposure.
[172] However practices are changing, reflecting increased speed and efficiency drives in the scientific management of illness (Hirth et al. 1999, Howell 1995). For example, the recent guidelines issued by the National Institute for Clinical Excellence (NICE) in the UK now recommend that a CT scan is taken for head injury cases rather than direct observation of the patient in hospital overnight (Shravat et al. 2006).
[173] Tabshouri (2007) Syndicate of hospitals magazine, October 2007, available at http://www.syndicateofhospitals.org.lb/magazine/issue1.asp
[174] 22 of these machines were in the private sector (Abraham 1995 cited in Kutty 2000).

A common assumption regarding the rapid diffusion of medical technologies is profit. In the case of both CT and MRI, the technologies were first acquired by several shrewd businessmen (one radiologist who set up a scanning centre) and one large hospital, who acquired the technologies, seeing an opportunity for development. Those who imagined new risks and new rewards were well rewarded for their endeavours. However, the widespread diffusion of the machines thereafter took on a life-force of its own, as the technology became widely popularised amongst hospitals, doctors and the general public.

Although individual investors hope to make a return on their investment, considering the high cost of the technology, the business appears less profitable than this popular perception, given the considerable cost of investment. With the exception of rural centres, which can obtain cheaper machines from the Gulf, most large hospitals have more recently acquired the new 64-slice CT machines, keeping up with the latest developments and market trends. Owning a CT scanner brings potential risks as well as potential rewards. Based on the estimates of several local radiologists that scanning centres conduct between 200-300 scans per month, it takes 4.5–7 years to recoup the cost of a new machine through CT scanning of the head, or 2-3 years for abdomen scans. This does not include any values for overhead costs or referral fees. Given innovations to the CT technology, as faster scanners are introduced, moving from 64-slice, to 128-slice, to the latest 320-slice, this is a long time in contemporary radiology.

While machines in many large hospitals are kept busy with flows of patients, independent scanning centres offering no other clinical facilities have to depend on referrals from doctors. Meanwhile, other machines, operating within an ethical framework, sit unused. In this case, the investment may represent a significant loss to the institution, although having a CT scanner indicates to patients the hospital is a higher centre and as a signature of quality and progress, reflecting the indirect benefits for institutions of having a machine. Whether scanners are linked to financial networks also affects the usage rates of machines. In the non-profit sector scanners may be under-used if doctors refer patients outside to receive referral fees. Therefore, returns from CT scanners are highly variable, compared to the risk of investment and the pressure that capital expenditure places on the financial and ethical well-being of hospitals. In contrast to dominant perceptions that the acquisition of the machine is profit

motivated, the extent to which centres make a profit on the machine varies considerably.

The Allure of CT scanners

The CT machine has gradually evolved into a beautifully crafted technology, and the idea of the machine and its design ethics provoke a sense of wonder, awe and fear in patients who undergo its rays (Blume 1992:2). Aesthetically, the CT scanner is impressive, consisting of a large white circle, internationally described as a 'donut', which stands about 2 metres tall. Attached to it, is a mechanically operated bed that slides the body into the circular hole from which radiation is emitted through the patient's body. The image of the CT scanner has become widely known, that the unique, circular iconic form makes it easily recognisable, facilitating its wider circulation in media images, thus increasing recognition and appeal.

In popular television serials and cinema, the CT scanner forms the climatic end to the hospital drama narrative.[175] For example in the recent Mohan Lal film, *Thanmatra* (particle), the patient is pictured motionlessly strapped to a bed, with his head in a tight brace in the isolated radiation chamber. As the music reaches its crescendo, the patient's body passes through the machine, embellished with red rays forming a red cross on the patient's forehead, also shown in the marketing literature of private hospitals. On the website of one local hospital, the flashing image of a CT scanner is depicted as providing electric energy and power to the patient, through the application of the powerful rays. While the CT scanner and the idea of a 'body scanner' has had considerable appeal in Kerala and elswhere, as Blume (1992:2) notes, "even the most aware-inspiring artefact is just that: a thing made by human beings, driven or inspired by certain goals, desires and aspirations."

The high economic value of the CT machine has significantly accelerated processes of commodification. As a result of the cost and the prestige of the machine, technologies are important news, and launched with a 'big fanfare,' raising the profile of the institution, and providing an important opportunity for publicity. The inaugurations of medical technologies in private sector facilities are frequently attended by the government health minister and other ministers. New developments in a consumer-driven market are important in renewing the profile

[175] By comparison in the longstanding UK drama Casualty, the dramatic medical scene is the flat line of the heart monitor that requires resuscitation of the patient by defibulators to re-start the heart.

of an institution. In the local fieldwork context, the acquisition of a CT scanner by a local charitable hospital, launched alongside several dialysis machines, has had a dramatic effect in transforming the public perception of the institution. The machine acquired through a charitable donation from the Gulf can provide scanning at reduced rates - 50 per cent, compared to other centres. In conjunction with the employment of new specialist doctors, the hospital is now considered by doctors and patients as the latest institution to be 'coming up.' The institution is widely talked about amongst doctors and patients combining high tech super-speciality medicine with a charitable ethos, thereby extending the availability of technologies, so the poor can also benefit from access to new technologies.

The CT scanner confers status upon hospitals and the private, charitable or governmental organisation acquiring the technology. Consumer-orientations have therefore influenced the desirability and necessity of acquiring a CT machine, as a standard that speaks of the technological capability of a hospital, the power of the patron, and thus as a proxy for the strength of the institution and the quality of health services. For smaller hospitals, the power of technologies to generate patient flows to larger hospitals, creates hierarchies between different institutions. Therefore staying 'low tech' has become risky in a competitive health care market, and the acquisition of CT scanners a response mechanism for institutions to try to maintain patient numbers, as previously discussed in the example of the mission hospital. Leading hospitals also feel pressurised to keep up with the latest technologies. If one hospital acquires a new technology, then others consider whether or not to follow. As one cardiologist explained the decision to acquire the new 64-slice cardiac CT scanner, following its acquisition by a hospital in Cochin,

> "We had a big meeting about that. That's a 3 or 4 crore investment so we had a discussion with the management. The marketing people of these companies tell you that you are nowhere if you don't have this. But then you never know when they are going to bring out a 128-slice scanner. Then you are behind again."

He continues,

> "For these companies they don't care about people. Health is just a big business. They just come along and are trying to sell 45 CT scanners. They

want you to have these machines. They want you to have wellness centres, like beauty parlours that you sit in an a/c room and then go for scanning just in case. They have to make people fearful that if you don't have this scan to check you might die. Basically these CT scans are for people who are well, just in case. If you are sick or something you need an angiogram. It's just for a check-up."

The comment illustrates the hierarchies in business – from local corporate hospitals to international medical technologies companies. For the interventional cardiologist, the machine is a threat to his work, although from interviews with the manager of the hospital acquiring the machine, there is no added value of the technique. For patients it means those too afraid to undergo an angiogram can go for the latest minimally invasive technique at a cost of Rs 6000 ($120). However, given the fact that most hospitals have invested in Cath laboratories to perform angiograms and the recent invention of the 320-slice CT scanner, providing better non-invasive techniques, it is unlikely that the technology will be widely diffused.

Large signboards have been erected outside local hospitals advertising 'whole body' or '64-slice CT scanner' in large bold letters. In another hospital, at the main entrance, the MRI and CT machines have been encased within black marble walls, with large gold lettering placed outside. Inside the hospital the machines are encased in chambers with thick metal walls and doors, to keep radiation in. Scanners are therefore placed in the mind of consumers entering the hospital, concealed in a fronting similar to the fashion of the shop fronts of expensive gold shops, although the machines themselves remain hidden from view in tightly guarded rooms. Therefore although people know the CT scanner by image through media and film, only those undergoing a CT scan have seen the machine.

For specialist CT and MRI centres, publicity amongst the general public is not necessary as centres rely on the referral of doctors. The decision of where and when to refer patients is based on a variety of factors - the quality of work carried out by the centre, the reputation of the radiologist, the cost of the scan to the patient and the financial incentives received by doctors. There are considerably different ethical and unethical practices across different doctors and institutions, based on the discretion of the doctors and the institution. Several doctors said that if they refer a patient to a particular institution, they can accumulate credits and send other patients at a discount. Other doctors have started referring

patients to the new charitable institution, feeling assured of the quality of the technology and the lower cost to patients. Although there are many doctors who minimise the cost to patients, for doctors on lower salaries (also those often treating poorer patients e.g. doctors working in government service in smaller centres), referring a patient for a scan can significantly add to income. As one young doctor explained,

> "If you get a patient from the periphery with a CT scan your commission is Rs 600 – you send a letter, please do the needful, go next day and then instruct the patient to come back – then you go and collect the money. So doing a night duty for Rs 1200, you can get a lot of money if you refer CTs for a head injury."

This doctor admitted to referring someone for an unnecessary scan once, but then felt bad so has never done it again. In response to the rapid diffusion of the technology and considerable income differentials between different members of the medical profession, a vibrant informal economy of scanning has grown up. One scanning centre manager says that he will give gifts to doctors in gratitude for their business, but not payment. However for scanning centres to survive, it is necessary to build up referral networks unless the technology is integrated into a hospital context with considerable patient flows.

A combination of economic, clinical and social factors has led to the normative sanctioning of the CT scanner in the case of a headache or a minor 'bump' to the head. Although the broad use of the head CT in the treatment for a headache may reflect the incentives paid to doctors, the normative sanctioning of the technique also reflects generally high levels of anxiety of people in health matters and the perceived value of the scan to check for any damage. For example, one doctor recommended a CT scan for his relative following a minor head injury, that it is better 'just to be sure.' People therefore appreciate the value of using the technology to check. This practice has spread to many sections of society. As one elderly doctor who established a private clinic for the treatment of tuberculosis patients explains,

> "If there are two people A and B and one falls down – B, the bigger, the affluent and all, will go to the hospital and get some CT scan and they will go through any possibility of any brain damage being done. But now if A, with nothing in his pocket also falls down, so he has got an idea that there

is something called a CT scan, that it is doing things for the brain, and so he has got the general knowledge about it, so he also wants to do it. That is the compulsion."

For consumers, the CT scan has acquired a sign value in consumption as a necessary luxury, just to be sure. For radiologists, it is a common discourse that doctors and patients have come to appreciate the value of scans. As one radiologist working in a higher centre explains,

"Awareness has increased in the medical community. We have realised the importance of evidence-based medicine, not clinical medicine. We found out we were blind that we can't pick up clinical lesions. Before we needed to palpate, to inspect in the traditional time. If the tumour is palpable it is inoperable. Patients now realise the value of the scan, so they will think, why don't we recommend….We are progressive, that we can pass on the benefit to patients."

Although the CT scanner is valued in 'picking up' clinical lesions, the occurrence of lesions is limited to severe injuries and the incidence of tumours is rare. The technology has become common in ruling out the remote possibility of a tumour, rather than a technology with a restricted use on patients with suspected tumours. In a recent controlled study of patients with persistent headaches, the incidence of brain tumours was found to be 0.1 per cent of people experiencing headache symptoms (Rasmussen et al. 1995 cited in Goadsby 2004). In Kerala people can be recommended for a CT scan at the onset of a headache, rather than frequent headaches. Economic factors have certainly extended the clinical justifications for the use of screening technologies, reflecting the financial benefits to doctors of referring, but also the general belief in the value of the machine shared by many doctors and patients. As one radiologist explains the high number of centres,

"Commercialisation is also coming along with progress. Doctors are given X rupees that they have an incentive and are tempted to refer. But the patient doesn't mind. Scans have somehow caught the imagination. Kerala is a place where there are a lot of magazines, columns on health in the printed media. They tell people about the effects, the value, the utility of scans. There are 15 odd channels, magazines and 5 per cent is for health."

The media has played an important role in raising awareness and providing technical information about CT scanners, increasing general acceptance. While patients commonly report that they have done the scan because the doctor told them to, doctors also affirm that patients are demanding. In health magazines, articles describe how CT scanners work - they provide knowledge of damage to the inside of the brain, as machines through which 'we can come to know everything.'[176] Scanning technologies have become fashionable that patients will self-report in the case of a head injury, and according to doctors they come 'ready to do a scan.' Occasionally patients ask if any sort of scanning is necessary and doctors will re-assure if it is not required. In a context where there are significant inequalities of income between patients, patients with more money may feel reassured they are getting the best treatment, or if a doctor is not recommending a scan, they may suspect he is doing so to minimise the cost to a patient. By asking the doctor it may reflect their anxiety in seeking re-assurance from the doctor. At the same time, the patient is indicating they have enough money to do the scan, to confirm the doctor is not economising for the sake of the patient's purse.

For women who have undergone scanning, while people in close social circles know who has had a CT scan, consumption is an ephemeral event that generates little conversation or subsequent interest. Scanning is generally seen as the expert domain of the doctor. Patients justify scanning because the doctor told them to. Having a scan is also socially valuable to confirm the severity of an illness amongst relatives and prestigious because of the high expense of the scan. For women in particular, going for a scan provides a legitimate excuse for the wives of Gulf migrants, to get dressed up, to get out of the house, to take food from a hotel and receive attention while seeking medical treatment. For example, on a visit to a rural hospital with one neurologist, the doctor prescribed an MRI scan to a woman complaining of general body aches. He told me he can check to make sure it is nothing more serious. By doing so the doctor also provides the woman with an opportunity for a trip to the city, to receive some money from family members so his decision has other benefits for the patient. Having problems such as generalised body pain or headaches which become medicalised through a doctor's recommendation of a CT or MRI scan legitimates illness severity and therefore may be welcome for women in the periphery who do not have many reasons to travel, although such decisions are based on the doctor's discretion.

[176] Translation of an article on CT scanning in a local health magazine.

The cost of a head CT scan is four times that of an ultrasound, and price is commonly understood to reflect the quality of the medicine or treatment, and its healing power. Hierarchies of value are reproduced through the physical form of the technology, ornamentation and subtle performances of quality that mark the object's circulation in social life which distinguishes the value of the CT scanner above the x-ray and ultra-sound. The CT scan is provided in a large glossy paper bag adorned with strings, colour photographs which assist in making the product valuable to patients, in comparison to x-rays provided in modest brown paper envelopes. One CT scanner bag shows an image of a blonde mother, smiling and kissing her healthy baby. Bags containing the scans are easily recognised, carried about the city with other medical records, kept in the thick white plastic bags often from gold shops.

In medical encounters, because people are paying for treatment, the value of the scan is re-enforced as part of the negotiation, by necessity to ensure that patients are able and willing to pay for investigations. In the process, by comparing x-ray with a CT scan in medical encounters, doctors implicitly reinforce the value of the CT scan as superior, as a bigger, better technology. Because patients in Kerala will prioritise spending on health care, the high cost of the scan increases its value and faith which patients place in the technology. Furthermore, the declining moral authority of the medical profession has led some patients to believe that doctors may miss something the scan will see. Amongst the medical profession, the beauty of the image and the beauty of the body have become a fascination. The high cost of the scan similarly communicates the value of the technology, compared to the shadowy images of x-ray. As one chest physician explains,

> "A scan is like a multi-dimensional helix. With a CT scan you get to see the depth and texture of everything. Taking an x-ray of your bag, you could only see it in two dimensions, with flattened content, but with CT you can see how thick the layers are. But there is a possibility of over-diagnosis. For most cases x-ray is enough."

As a technology created and used by an imagined, developed 'other,' the technology also speaks volumes about the power, spectacle and expense of modern science. For example in discussing a persistent knee pain, one female friend whose husband is working in the Gulf with a good income to support a

fairly high standard of living (English language education for the children, fashion and food) told me,

> "The doctor told me that I should take an MRI – that is a modern treatment, what people in your country do – here we are poor, so I just took an x-ray and some āyurvedic medicines."

For less educated patients, technologies have a greater mystique, understood as a source of healing power. For example, a doctor's servant had sprained her arm. He took her to the hospital and the best doctor to have her arm treated and bandaged. He insisted that an x-ray was not necessary, but she was determined and went several days later to the government sector. Only after having the x-ray, the servant told the doctor that she was feeling better, to the doctor's bemusement. For some patients undergoing a scan is part of 'checking' in English, although in Malayalam the word '*chilkiltsa*' (meaning treatment) is also used. Undergoing a scan has become common that it has become a normative component of treatment and healing processes that it is difficult to differentiate. The subtexts in media representations also strongly imply that patients receive power, strength and sacred healing from the machines – the red cross on people's foreheads in film and media photographs and in the flashing image of CT scanners on websites. [177]

Criticisms of the Scanning Business

Criticisms against the proliferation of scanning are most common from elderly doctors in their sixties and above, who have lived through very different times, spending their careers treating diseases of poverty, within an over-arching framework to minimise the cost of care to the patient. This also reflected the limited resources of the area. Doctors worked within the constraints and widely recognised that most patients couldn't afford health care. The elderly doctor running a TB clinic, explains the links between the industry and the Gulf 'boom'.

> "Now we are asking machines. So many machines are there. In the hospital, the building is costing 1 crore, but the machines are costing 2.5

[177] Although I got to know about 300 people in the city, I only met two women who I knew had had a CT scan and they did not have much to say on the subject. They went to the doctor because they had fallen down and went to a local doctor who referred for scanning. This aspect needs to be followed up, although as noted it is difficult to talk to people in hospitals (the most obvious place to recruit respondents), as people are anxious and paying customers of the institution. It could also reflect that more people from periphery areas are having scans in the city. It is also important to find out how many poor people are having scans as poorer doctors have more incentives to refer people.

> crore – tell us what you've got – scan this, scan than, MRI that. So then we come to the conclusion that X has got nothing. So that's how we are working. In a poor country like this, if the Gulf boom stopped tomorrow, we would be poverty-stricken and none of these things would work. Now the medical field, it is the only industry in Kerala or for that matter in the whole of India that is coming up. If money was not coming from there, we would become another Africa."

Another senior doctor places the blame on the medical profession and the general trend towards the widespread application of advanced diagnostic techniques. This doctor has been trying to establish a charitable centre for the treatment of diabetes patients but has had problems because doctors won't refer.

> "Doctors think kickbacks are their divine right. The abuse and overuse of expensive investigations is pure greed. Angiograms and scans are done because huge amounts of money are changing hands. 80-90 per cent of the scans are coming back as normal, unnecessary. If an x-ray is routine, maybe that is OK, but if a CT scan, MRI or angiogram are routine, then there is a radical problem – that is the stage to which we are now moving. Some say that conventional radiology is outdated or totally unnecessary – that view is totally misguided."

While the rationalist argument of the doctor is persuasive, it lacks the social embeddedness to understand the dynamics of technological diffusion and the integration of medical technologies into everyday practice. These themes are further explored below.

Analysis

Graeber (2001:1-2) formulates three different ways to talk about value and values in society. Firstly in the sociological sense, values constitute what is seen as important and desirable in social life. Secondly, in an economic sense, values are expressed in the economy, by the amount of money that people are prepared to give up to possess an object. And thirdly in a linguistic sense, value, denotes meaningful difference, when commodities are no longer defined by their use value, but what they signify (Baudrillard 2004).

As a technology created and used by an imagined, developed 'other,' medical technologies speak volumes of the power, spectacle and expense of modern

science, which some people in Kerala can now afford. As Sochurek (1988 cited in Blume 1992:189) notes, "generally, technologies are embraced with optimism rooted in a willing acceptance of the inevitability and benefits of technological advance." For patients in Kerala 'luxury' technologies carry with them an imagination of a developed other freely consuming the benefits of western technological advances. Even though the most advanced technologies are widely available and seen as tangible signs of progress, technologies also reinforce the idea of India as a poor country, dependent on machines from outside, valuable, but beyond the financial reach of many local patients. This dynamic further reinforces the value of machines that people in a poor country like Kerala should have technologies but struggle to afford.

As Prasad (2006:327) argues, the social adoption of technology requires an understanding of the ways in which the clinical, the economic and epistemic are inter-twined. While these factors are important in defining how technologies are integrated into everyday medical practice, they are insufficient to explain the rapid diffusion of technologies within a marketised health care system. Following the sudden lifting of restrictions on the importation of technologies and interest in the Indian market by international medical technologies companies (Baru 1998:54-55), technologies suddenly acquired a high economic and symbolic value, for institutions willing to invest, and the idea of standards the whole body CT scan projects. CT scanners have a high symbolic value, but the meaning and reasons why different institutions acquire them, reflect and reinforce power differentials in the marketplace.

For investors in independent scanning centres, CT scanners have provided a potentially good source of income. For large institutions the technology has become a symbol, which has come to define and is appropriate for a modern hospital. For the Christian mission hospital losing market share the machine has become a necessary bind in a competitive marketplace, a strategy for survival, re-injecting a life-force to renew an ailing institution. Rather than a luxury, a CT scanner has become a necessity to maintain market share, although the meaning of the technology varies across institutions. For rural hospitals, a CT scanner is important to increase the power and belief the local institution is a higher centre, indicating it is not necessary to shift to higher urban centres. For the government sector or the local hospital run by a Muslim charitable organisation, CT scanners and MRI machines have become a way in which to perform patronage, symbols of power, speaking of the sponsoring institution's strength, its modernising

orientations, as a new lexicon of development and progress. The technology has a high moral worth, as charitable institutions increase access to technologies, as a social good for the poor and needy sections of society, in some instances reducing the cost, if older machines are purchased.

The interest in western medical technologies companies in the Indian market has become an important presence shaping the ambitions of different institutions to acquire technologies, to create difference and distinction in the health care market. Innovations move fast because in the context of a rapidly evolving health care market, institutions do not want to be left behind, to make the right move at the right time. However there are limits - it is unlikely that the 320 scanner will be widely adopted by many hospitals in Kerala in the near future – given the high cost of the machine and the scan, and the competition of the technology with interventional cardiologists and the private sector's investment in Cath laboratories. At the same time, hospitals do not want to be left behind to refer patients. The CT is therefore rather unique because of its aesthetic design, 'the whole body' imaginary. By comparison, MRI has followed more slowly because it is considerably more expensive and aesthetically less appealing to the general public. However it is gradually becoming a more established value in clinical practice – its general applicability in imaging joints, the spine and the head, and as a requirement for institutions to conduct post-graduate qualifications in radiology. Although MRI was also first introduced in the same way as the CT scanner, it is gradually being more widely used and accepted through clinical and professional channels, compared to CT, which acquired value, ostensibly through the context of a competitive marketplace and novelty amongst the public and the medical profession.

For radiologists, the CT scanner and MRI machine have considerably elevated the status of the specialism, creating new hierarchies between those who work with ultrasound and those who work with CT and MRI. However, radiology became more valued as a specialism in response to the diffusion of the CT scanner. The value of the CT scanner primarily accrues to hospitals, as a symptom and sign of competition in the health sector. However, its symbolic power has exceeded commercial motives, and for large-scale institutions the technology takes years for the hospital to recoup the investment. On the one hand the fetishisation of the technology in the media has over-stretched the industry so the acquisition of the technology defies commercial motives. On the other hand, the returns to the

institution more generally from having the technology are considerable, defining the institution as a higher centre, as indirect economic benefits can accrue.

The incorporation of the technology into the everyday clinical contexts has therefore been a response to the diffusion of the technology. Changing attitudes to risk and evidence have played a role and have become important reasons why doctors may prescribe scans. This reflects the increased uncertainty in medicine as doctors are aware and treat more complicated cases e.g. Parkinson's disease, cancers, and live with the concerns that patients may sue the doctor if anything goes wrong. Radiologists in particular will say the speed of disease has increased that it is important to pick up signs quickly. Greater awareness of medical uncertainties means that doctors are more likely to err on the side of caution. This is compounded by an increased fear of litigation, and the use of scans is gradually becoming a sign of defensive medicine. In a context where the use of technologies has become normalised, CT scans have become an important form of evidence, more easily justified if patients are ready to go for scanning. From the perspective of the radiologist,

> "In the olden days doctors had more self-belief in their clinical acumen. Now technology is there – they would be foolish not to use it on patients. The patient knows the value of the CT scan and wants to get it done. As times change the doctor has to adjust. People used to believe in the doctor. Now if the scan says it is normal, now they will be satisfied."

Although some patients may consult another doctor if the first doctor does not describe a scan, this view was not expressed by patients and on only two occasions I heard patients ask without prompting about the necessity of a scan.[178] With the exception of the work of neurologists, I only once saw a CT scan being prescribed for a patient. Either my sample was limited to a particularly ethical sample of doctors, or doctors did not choose to send people for scans in my presence. In either case, it reflects the fact that the use of CT scans is not a widely accepted value in clinical medicine. Here, doctors were keen to emphasise scanning technologies only confirm what they can know from clinical findings. Although patients are reportedly ready to go for scanning and attitudes to risk have changed, this can only account for a limited number of scans. The development of an informal economy of scanning has been important

[178] Several doctors who are critical of scanning reported incidences of patients asking about scans, reflecting patient confusion over the necessity of scans.

in normalising the everyday use of the technologies, as an easy source of income for doctors in the context of a competitive marketplace. Several young doctors said they earn less money compared to others working in the Gulf, so if patients are asking, then they will be willing to prescribe.

Many doctors can earn six times the amount of money from sending one referral, compared to seeing one patient. In a context where doctors are expected to be rich, and they have spent a long time studying and paying for their education, doctors have more of an incentive to make some money from referrals. In the context of a health care industry where institutions are making considerable profits, the indiscretion for an individual doctor may seem less significant. For doctors on low incomes the temptation to refer is there, to abuse professional powers to increase income. This is an important factor explaining the normalised use of the CT scanners for a 'bump' to the head or a headache, supported by patient's awareness of the technique, the sign value of the technology for consumers and generally high levels of anxiety that patients willingly accept the advice and referrals of doctors. Amongst the wider medical profession, it is not an established clinical value to immediately send patients for scanning for minor ailments, that in the case of Gulf migrants in particular, the economic has over-determined the use of the technology for minor injuries and technology.

Conventional radiology is losing ground and x-rays are becoming out-dated. New technologies have come from outside and CT and MRI scans are signs that radiodiagnosis has evolved. X-rays are no longer seen as prestigious because other technologies have come along. However, in medical college doctors only have exposure to x-ray. Newer imaging techniques are seen as better because of the clarity of the image and the expense of the technology, as a proxy for the value of the image. However, despite the seeming 'clarity' of the image, most doctors struggle to make full sense of the images they are seeing because people have not gone training in reading the technique. This reflects the fact that CT scans and MRIs are supposed to be the expert domain of radiologists who write reports. However doctors want to look at the images, to see for themselves rather than just relying on the information provided by radiologists. In some cases e.g. stones it is obvious from the image, but for other cases doctors look puzzled trying to see the truth-value of the image, spending more time on this rather than digesting the reports of radiologists. In front of patients, doctors prefer to read the image, rather than look at reports. For doctors in the clinic, the technology has an important aesthetic value that doctors like looking at the

images and commenting on the contours of the body. Doctors will spend time in the wards, looking at imaging results, as an important way in which to perform medicine and their authority in reading high value images.

Conclusion

By examining the diffusion of medical technologies, it is possible to trace a further development of the knowledge economy as the demand for visual knowledge becomes an important value for doctors and patients to know disease. Patients commonly use the term to *see* (*kaanuka*) or to *show* (*kanyikkuka*) a health problem to a doctor, and therefore technologies can assist the work of the modern doctors in checking patients. Secondly, the diffusion of medical technologies illustrates the symbolic power of CT scanners in particular, to define hospitals as higher centres, as abstract visual symbols indicating higher standards in health care. The popularity of the technology has come to symbolise processes of health commodification, as objects promoted by the industry to indicate the power of western science and modernity and higher standards in health care, over and above the knowledge and expertise of local doctors.

Competition between hospitals and the visions of entrepreneurs have been important in assisting the rapid diffusion of the technology, while the informal economy of scanning has been perpetuated by inequalities within the medical profession, as scans can add significantly to the income of doctors. However, the extent to which doctors engage in such practices varies and ultimately depends on the ethics of individual doctors. In interviews, patients did not spontaneously mention CT scanning, in positive or critical terms, and patients rarely asked the doctor whether a scan was necessary, although patients may come 'prepared' to undergo a scan. As CT scans have become a more established value for doctors, it is more important for hospitals to have scanners, otherwise patients have to be referred.

Hornborg (2001) attributes three different meanings to machine 'power' – the power to conduct work, the power over other people, and the power over our minds. CT scanners have become powerful objects shaping the vision of what is socially desirable, necessary and good in health care. This reflects the way in which the technology has been fashioned to shape popular perceptions in India and elsewhere, as a technology that can know the extent of disease in the body. In Kerala, the value of the CT scanner is further reinforced by the cost of the scan relative to other technologies and its wider marketing by hospitals, the media and

its unique design. In the process, the power of the machine to attract resources for investment represents a significant drain on resources that could be spent on other areas, to the extent that even in 'for profit' institutions, the number of machines has reduced the extent to which they are economically profitable. The next chapter examines transformations to the doctor patient relationship, as the production of information, doubts over the use of technologies and hierarchies between different centres shapes flows of patients around the health care market.

Chapter 7:
The Moral Economies of Medicine: Doctors and Patients in the Era of 'Super-Speciality' Medicine

I regularly stop in for a cup of *chai* in the late afternoon at the office of a flour merchant in the local bazaar. Abdul sits in his office counting bundles of notes as the head load workers carry flour sacks onto waiting lorries to be delivered to clients. Sometimes they are bundles of Rs 10, or Rs 100 if he has a big order. Abdul never really tells me that much about the health care system, despite regular probing. However one day, he definitively tries to conclude my research project. "Doctors don't care about people. The health care system is simply a business." His comments surprise me because Abdul had previously not liked to answer questions about modern medicine, always preferring me to interview other educated members of the community, more able to speak about such matters. This reflects his modest education, and limited knowledge of English or science, which make him feel unqualified to really discuss the health care system.

On another occasion he decides to take me to see the doctor who runs a small clinic, serving the workingmen of the local bazaar. As we venture towards the hospital, he loosely clasps his hands together on his chest before we reach near the reception area and doctor's office. He removes his shoes on the large coir mat laid outside the entrance portico. The otherwise quiet but reasonably confident man hangs back in a reserved and humble manner, leaving me to establish when the doctor might be available. Even though the doctor is not present, his manner is reverend, approaching awe.

Several weeks later Abdul's young grand-daughter, who is only a few days old, is re-admitted to a nearby hospital, as she is not feeding properly. A few days later the hospital bill is lying casually but prominently on his desk cluttered with receipts, facing forwards so that people can see as they come in. The total cost of birth is Rs 5,000 ($100) and the re-admission of the baby to the ICU unit Rs 12,000 ($240). The bills are treated with ambivalence. He has done a good deed by spending so much money, but at the same time he is slightly bitter about the cost.

These scenes reflect some of the conflicting relationships between people and the private health care system. On the one hand doctors are revered for their high social status and divine-like powers, who should be approached with deference

and respect. One never knows when one is going to rely on the services of the doctor. People want to trust doctors and expect a high level of care and ethical behaviour from doctors and hospitals, although some have become suspicious about the reasons why doctors are recommending a particular treatment and are disillusioned by the cost of medical care. Given significant information asymmetries between doctors and patients, anxieties surrounding illness, problems with service provision, rumours of unethical behaviour, and limited communication between doctors and patients, the treatment received in hospitals does not always conform to people's expectations of good health care. These issues are further discussed using the example of Mr Yusuf. He is an articulate, successful businessman in the city, with two sons working for multi-national companies in Mumbai. His brother's daughter has just given birth in a private hospital. He explains,

> "That hospital is becoming known for its 'cut' throat practices. I know the owner Dr G. He is a very good friend of mine, but you can't say anything. Remla gave birth there. She had to walk from ICU to the 9th floor with the baby, to feed it. She had a caesarean. The lift broke so we had to walk all that way. When she was giving birth they said the baby's head was too big. After four hours of labour Dr H. did everything she could but then she wanted to do a caesarean. It's all about speed these days. Women are not allowed to labour. Then they told her that she had to see the paediatrician. When the paediatrician came they told her that she was going to have to stay. The baby had jaundice and would have to be kept in hospital for another few days. Her mother and father-in-law were there so we were all very anxious. I didn't know what to do. But do you know how much it would cost to stay in for another day? Rs 2,000 ($40). For what? So many unnecessary responses are there. So I said to the doctor, we are going. He advised against it. We took the baby straight to our local doctor, a paediatrician who is well known to us. He looked at the baby – bounced it up and down and said there is absolutely no need to worry. He said I was brave to take the baby, but absolutely correct to do so. Like that the hospital is losing its reputation."

Mr Yusuf's family has sufficient funds to pay for the extra days' stay in hospital. He is part of a small minority who would take such a risk in the case of a newborn baby and go against the advice of the doctor. Abdul would never dream of questioning such advice or authority, although the recommendation of the doctor

to admit the baby was a drain on his modest means. The health of newborn babies has become a matter of great anxiety - does the baby have jaundice? Is it feeding well enough? Some people will go to super-speciality hospitals in the urban set up, travelling considerable distances to ensure newborn babies get the best care. It reflects a significant shift in attitudes of appropriate responses to pregnancy, childbirth and neo-natal care, as events now fraught with anxiety, leading to higher levels of dependency on super-speciality hospitals. This contrasts to older generations of women giving birth twenty years ago. For example, my landlady told how she was breast feeding the baby for 10 days, before milk came. Her mother recommended taking some medicines from a local *nattu vaidyan*. She took the medicines and the breast milk started coming. Although she had delivered the baby in medical college and it had to be admitted to ICU for three days, she did not consider going to the hospital.

When I first heard a friend's baby had been re-admitted, I felt extremely anxious for them – hoping everything would be okay. Upon hearing more and more cases, my concerns soon diminished and I became somewhat ambivalent to the news. In recent years it has become extremely common for babies to be re-admitted to hospitals several days after delivery. Like the willingness people have to go for a CT scan for a headache, re-admission to a neo-natal care unit has become a normalised event in the ongoing medicalisation of people's lives. However as the example illustrates, medicalisation is welcomed to relieve anxieties, critiqued because of the associated costs and resisted by some educated patients who refuse hospitalisation.

The routinised usage of scanning technologies and admission of babies to neo-natology units are produced through a complex mix of factors, leading to over-medicalisation – high levels of patient anxiety, doctor's willingness to reinforce rather than alleviate anxieties by admitting babies to hospitals, more money to spend on the best health care the latest hospitals and technologies can provide, and more willingness on the part of hospitals and doctors to take people's money. In another hospital, Revati and her family pay $320 for three days stay in an ICU unit, before being told everything was fine. They travelled for over two hours to come to the hospital, so they have come with the expectation of being admitted rather than being re-assured by a doctor. Although the family feel satisfied they have done the right thing, they are shocked by the cost when the bill is presented to them on leaving the hospital.

By hospitalising babies, institutions are providing a service, which responds to lay anxieties and meets consumer desires, as important factors shaping the usage of large private hospitals and people's wider acceptance of technologies. For example, in the case of Revati's family, there is a considerable amount of prestige associated with traveling from a rural area to a 'luxury' hospital following the birth of a new child. By spending so much money the family is showing they are taking the best care of their newborn baby. On the other hand, the woman gave birth in a local private hospital nearby, so anxieties were an important factor, because they wanted to take the child to the highest centre possible. The father of the child has money coming in from the Gulf. Like the Muslim community, more affluent members of the *Thiyya* community also value spending new money on health care. They are worried about the life of the newborn baby, so why not travel to the best centre?

In the case of Mr Yusuf, he and his family are keen to get home and do not want to have to spend more time in the institution than is absolutely necessary. His case illustrates the importance of differences in professional opinions – in one doctor who serves by re-assuring the patient, and the other who emphasises risk. Given the opinion of the local doctor differed from that of the specialist doctor, this confirmed in Mr Yusuf's mind the hospital was engaging in corrupt practices, when this is not necessarily the case. As noted in the introduction, in a marketised health system, differences in medical decision-making are understood in economic rather than medical terms. Mr Yusuf suspects the doctor is motivated by financial incentives to generate more money for the institution, and therefore the doctor's medical decision-making is evaluated in economic terms. Maybe the doctor is concerned the baby has jaundice and wants to make sure it is not being let home too early? Maybe the hospital has encouraged doctors to act accordingly? Or the doctor is acting because it is of personal financial benefit?

Professional powers, local anxieties and consumerism converge, as people welcome, resist, resent and doubt the necessity of greater medical control of their lives. While technologies are accepted as progress on the one hand, on the other, awareness has increased that doctors are prescribing unnecessary investigations and unnecessary responses. In the case of Mr Yusuf, he would probably not have decided to defy the doctor's decision-making, had he not heard about the rising levels of 'corrupt' practices within the medical industry or possibly within that particular institution. I tell Mr Yusuf's story to a friend who is

a young doctor with no other interests or knowledge of the case. To my surprise, he is angered by the story and strongly berates the local paediatrician.

> "Has the local paediatrician done any tests to see the baby does not have jaundice?" He immediately explains. "There are two types of jaundice. The first type of jaundice is always abnormal – pathological jaundice, which will manifest in the first twenty-four hours. The second is a physiological jaundice, so the baby can't excrete through the liver. If the level of bilirubin goes up in some cases it can do so much harm to the baby. So in order to prevent those things, they will ask some people to take the baby out and give some light therapy. The paediatrician should have talked to the patient. The patient is not educated. How can an uneducated person understand? That other paediatrician just wanted to impress this man. That is the wrong way. The hospital doctor was not able to utilise his trust – maybe he is not that much worried about his personal patients – maybe he wasn't that much friendly to the man, or he explained things in medical terms. The periphery doctors are manipulating, being nice to people and making the patient trust them in a wrong way. Other doctors can't take so much risk these days."

This exert illustrates the ways in which medical knowledge and evidence are valued by the young doctor. He has primarily worked in hospitals where it is possible to do blood tests, before deciding what action to take in the management of a case. His opinions reflect a further difference in the idea of appropriate medical decision-making, and variations in the relationships between local doctors and tertiary hospitals. He evaluates the relationship between doctors and patients in social terms - contrasting the local doctor in whom patients have higher levels of trust, and hospital based consultants, who in the example, was a paediatrician assigned to the family in the hospital. This doctor is critical of the local doctor for *grooming* the patient rather than accepting the value of re-assuring patients, which he sees as a manipulation. The re-assurance of the local doctor is contrasted to the hospital doctor, who is not able to 'take so much risk,' and who is unable to communicate properly to the patient. For Mr Yusuf, the advice of the local doctor is more palatable, because it confirms the family's decision, and provides the family the re-assurance they want, so they can settle with the baby at home, rather than having to stay for a longer period of time in a large hospital.

The examples illustrate the importance of understanding the social distance between doctors and patients, as both transact in the more unfamiliar hospital context, and how this dynamic and the availability of resources in the hospital shape attitudes to risk and trust. Therefore although changes to doctor's decision-making reflect shifts in medical knowledge and practice, for educated consumers, these shifts are understood to reflect economic values of profit oriented hospitals and doctors. The examples also illustrate the difference between educated members of the middle classes particularly from the Muslim community, who are resisting medicalisation and less educated members of the community with money coming in from the Gulf who are the most numerous consumers of health care in new private hospitals. These members of the middle class are critical of private hospitals and 'all their testing.' Meanwhile for the families of many Gulf migrants, specialist doctors and sophisticated technologies are the factors attracting people to private hospitals, because they have faith in these hospitals, and are more content to be admitted to hospitals.

This chapter examines the social dynamics transforming the relationship between new private hospitals, doctors and the lay public. It examines the relationship through different layers – the role of health care seeking behaviour in people's lives, critical discourses of the medical profession, and the role of the media in increasing anxieties. It examines the social distance and connections between 'super-speciality doctors, hospitals and local communities, and the role of selective trust (Harriss 2003) in shaping patient preferences as people seek treatment in the urban marketplace. It explores transitions from the perspective of the medical profession, to understand the ways in which the model of medical dominance is maintained and challenged through the Consumer Protection Act (1992[1986]), interactions in the clinic and hierarchies of knowledge between doctors and patients. Discussion begins with analysis of sociological literature on health and citizenship, to understand the different ways in which health care seeking behaviour fits into people's lives.

The Social Contexts of Health and Health Care Seeking Behaviour

In western societies, it has been argued the 'good citizen' is someone who actively participates in social and economic life, makes rational choices, and is independent, self-reliant and responsible (Galvin 2002:108). Consequently, the categories of health and illness have been analysed as vehicles of self-production, through subjects endowed with the faculties of choice and free will (Greco 1993:358). Authors note a moral duty has been placed on the self, as a reflexive

individual, endowed with the duty to be well, to respond to known sets of risks, and to be entrepreneurial in searching out information, which assists in the continual project of self-improvement (Crawford 1980, Lupton 1995, Galvin 2002, Petersen 1997, Rimke 2000). As Lupton (1995:131) notes,

> "This privileges the production of a certain type of subject, who is self-regulated, 'health' conscious, middle class, rational, civilized…. privileging a body that is contained, under the control of will."

It produces an ideology of health, in which individual citizens are responsible for their own choices, knowledgeable and accepting risks, and able to adapt behaviour in order to look after their own health. The new consumerism in health care also encourages patients to resist the paternalism of the doctor and to challenge medical decision-making. In Kerala, although some middle class patients are challenging medicalisation in hospitals, as argued in Chapter 3, modern ideas of health care have cultivated dependence on doctors. For example, Mr Yusuf depended on the advice of another doctor to confirm his decision-making. Therefore although the family resisted one form of medical control, they required further affirmation of their decision by another local doctor. This reflects high levels of dependence on doctors as experts, and the ways in which trust in doctors is developed if the advice or service provided matches patient expectations.

In Kerala going to see a doctor is an important way in which people care for their health. This contrasts to the emerging idea of public health in the west, based around individual control, responsibility, restraint, self-care and the duty to be well. In India the person, the body and health are continually made, conceptualised and reproduced through interactions between people and their environment (Nichter 2001). Studies of kinship and health have examined how health and the body are continually reproduced through the sharing of food and the embodiment of substances (Osella and Osella 1996, Lamb 2000, Nichter 2001, Ecks 2005). As bodies are trained, disciplined and socialized to fit the dictates of particular lifeworlds, this has produced an ideology of health as a state, continually worked towards through emotional labour, the sharing of the body, and embodiment of love, food, medicines, care from relatives and the treatments provided by different doctors.

Health and well-being are produced in everyday lifeworlds through good social relations with family members and friends, and embodied through the biomoral qualities of food and nurturing (Osella 2009). Osella and Osella (1996) use the concept of *sneham* (love, affection) as an oily bodily fluid and quality with nurturing affects, which flows and circulates within and between persons in intimate moral relations of care and affection, producing moral-affective states. While *sneham* flows in intimate relations of care in immediate networks, they extend the concept of *sneham* to relationships in the wider social sphere, useful in understanding people's affinity for seeking health care from indigenous healers where such forms of closeness in the relationship are intimately linked to the positive biomoral effects of medicines (Daniel 1984, Nichter and Nordstrom 1989, Nichter 1996).[179] This is important in understanding the value of closeness and specificity in the relationship between doctors and patients.

The value of closeness was reinforced when I visited a famous local healer with a journalist, where we waited for an hour and a half before being able to see the female *nattu vaidyan*. Despite the fact the *vaidyan* faces the same constraints of large volumes of patients, who are generally unknown to her, the journalist continually emphasised whether I could see the 'closeness' between the doctor and the patient in her consultations. During his consultation, the *vaidyan* ascertains the problem by feeling the patient's pulse and by examining the patients' fingers.[180] The journalist emphasises his belief in the healer that it is not for the patient to tell the doctor the complaint, but for the doctor to know and to supply medicines prepared for the particular case. The doctor meets the patients' expectations by relating his problems to poor digestion, commonly seen as a reason for ill-health (Nichter 2001, Ecks 2004) and by prescribing dietary restrictions to avoid dairy, fish and meat. She takes the medicines and clasps them between her hands and blesses them before handing them over to the patient. The *vaidyan* does not discuss fees, and takes the money in hand which the patient is willing to offer, whereas money is never directly transacted between modern doctors and patients. The example is important in illustrating the way in which people maintain beliefs in different doctors for different health problems;

[179] This quality is widely appreciated in the treatment of other doctors – homeopathy and nattu vaidyans (traditional healers). Although the concept is more complex in local cosmologies, in practical terms it means that these doctors ask personal questions – about people's families and what they have eaten for breakfast, so that people feel cared for and re-assured.

[180] On another occasion I return to the vaidyan's practice observing a further 6 hours of consultations, predominantly with poor elderly women. The vaidyan has a stethoscope, although she does not use it. She also has a blood pressure machine, which she uses on some of her elderly female patients, although she is not able to take blood pressure.

how closeness is created through a reduction in class differences between healers and patients; the scripting of interactions which fit local cultural models; and the closeness created through directly exchanging and receiving medicines from the doctor. This contrasts to changes in the doctor-patient relationship in the age of chronic illness and scanning, as patients move through a process of screening the body before medicines or advice are provided, and difference between handling of payments – for example, when large hospitals present people with bills at the end of their stay.

In India patients have always searched out health care within the syncretic and medically plural health care market (Leslie 1976, Jeffery 1988, Lambert 1996, Nichter 1996, Nisula 2006). Trust has been extended to practitioners of indigenous and modern medicine based on the belief in expert technical knowledge and in the particular therapies of individual healers (Leslie 1976, Lambert 1992, Lambert 1996, Nichter 1996). People have not readily accepted the 'expert' views of modern doctors or their philosophical groundings, retaining pluralistic health beliefs, quickly searching out other healers when the services of one doctor have been found ineffective (Leslie 1976, Jeffery 1988, Nichter 1996, Lambert 1996). Therefore although people generally value '*closeness'* between patient and healer, there is a willingness to believe in the particular knowledges of many healers. For many doctors, it is a considerable source of frustration that people will readily accept the advice of any social contact or local healer, above the recommendations of a biomedical doctor. However with the exception of consultations with some middle class patients, modern doctors have not encouraged patients to accept, understand or adopt a more biomedical view of the world. Doctors have primarily assumed the role of expert by dispensing medicines or tests, or advice in an authoritative manner, rather than explaining to patients the reasons for their medical decision-making, the cost or process this may entail for the patient.[181]

Although some members of the middle class have developed good relationships with local doctors, generally modern doctors have tended to reject more personalised framing of the doctor-patient relationship (Jeffery 1988:261). Patients have attempted to bridge the social distance, by consulting the same doctor in order to cultivate a more personalised bond. From interviews the majority of people still claim to have a doctor who they regularly consult, particularly in the case of chronic patients with diabetes or heart disease, and in

[181] Based on observations of clinical interactions.

the treatment of minor everyday illnesses. However patients may also consume the services of other doctors, as people exercise their choice by shopping between different providers, if their health problems are not quickly resolved. For example, Mr Saleem complains about the services of one super-speciality hospital,

> "It is for extravagant people. It's a pukka business run by NRIs who already have *crores* but are making more money from the hospital. If you go there they will send you to see different specialists for every problem – ENT/ ortho – fine if you have the money, but the common man cannot afford. My mother consulted a local doctor because of chest pain. Then they took to her to see a doctor in that hospital. They did an ECG a TMT then an echo, and then they expect you to do another test. They phoned us up to do it. That is their marketing. We went to another doctor. They are not so money minded there. That other doctor from the hospital said there was no problem. You just have to take medications."

Like in the case of Mr Yusuf, the services of another doctor were important because the advice confirmed and re-assured the patient there was no problem. In a context where many elderly people have chronic health problems associated with Type II diabetes and other cardiovascular risk factors, patients are less likely to want to undergo more tests (in this case, was probably an angiogram). Health events, such as the onset of chest pain, are important in temporarily defining people as ill, whereas if people are not experiencing symptoms, patients are reluctant to see themselves as unwell. I spoke to several patients who described 'previous' heart problems i.e. when they were experiencing symptoms, who described themselves during the interview as healthy. These respondents remained sceptical of doctors who advised them to undergo more tests and scans, preferring the advice of doctors who said that medications were sufficient.[182] In these examples, other doctors' advice suited the preference of patients to underplay risk, to minimise the use of tests, to treat with medicines and to reduce the cost of treatment.

Dependence on modern doctors is an important way in which people have extended trust in abstract systems (Giddens 1991). [183] However as technologies

[182] Based on interviews with four other patients who reported they had previously had a heart problem and were suspicious of doctors who advised them to go for other tests.
[183] See Giddens (1991) on modern abstract systems as sources of authority and expertise. Expert systems are systems of technical accomplishment or professional expertise that

and chronic illness transforms medical practice, patient preferences for symptomatic treatment and expectation of a cure endure. Although large hospitals are providing higher standards of care through more highly qualified doctors and technologies, people's understanding of high tech health care do not generally reflect an understanding of changes to the disease profile and the style of medical practice, although patients are only too aware the cost of health care has increased. Thus as patients are making a considerable leap of faith into new abstract expert systems in super-specialty hospitals, they are doing so when suffering from serious chronic conditions. Although middle class patients are sceptical about medicalisation and resent doctors telling them they are ill, consumer demand also reflects heightened health anxieties, which are exacerbated through the media.

The Media and Health Awareness

In Kerala local identities are constructed as progressive and enlightened because people have 'higher awareness' of disease.[184] Although patients narrate personal experiences of being well or unwell, an important aspect of medical dominance is the way in which people talk about the increase and relatively high number of diseases in Kerala. This in part reflects the role of the media in increasing awareness of disease and reinforcing the necessity of seeing a doctor. Health magazines featuring articles written by local doctors across all systems of medicine are consumed by some members of the middle class, and the reporting of health related issues is an important focus for newspapers which headline

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organize large areas of the material and social environments of modern life. According to Giddens, trust is a fundamental principle in the functioning of modern institutions vested in abstract systems, which consist of expert systems (e.g. professional qualifications) and symbolic tokens (e.g. technologies). He defines trust as confidence in the reliability of a person or a system, regarding a given set of outcomes or events, where confidence expresses a faith in the probity or correctness of technical knowledge (e.g. people seeking treatment from doctors with post-graduate degrees, qualifications from outside (e.g. MRCP, or cardiologists as the best doctors). On the other hand, symbolic tokens are a media of interchange, which can be passed around without much regard to specific characteristics of the individuals or groups that handle them at any particular juncture (e.g. CT scanners as a proxy for the quality of services at an institution). Giddens asserts that trust in modern institutions does not presuppose local personal relationships; rather trust is instilled through face work and faceless commitments. Face work commitments refers to trust relations which are sustained by or expressed in social connections established in circumstances of face to face interaction. Ideally, trust on the personal level is a project to be 'worked at' by the parties involved and this could be demonstrated through tact, rituals of politeness, warmth and openness.

[184] The shift to seeing a doctor at the onset of illness is most notable amongst young middle class men and women, who have been brought up regularly seeing paediatricians. Most will go to a doctor straight away. Middle-aged women consume less health care than other groups and are slightly more sceptical about the need. This reflects women's greater knowledge of home remedies and affinity to ayurveda compared to modern medicine. For elderly men and women seeing a doctor is a treat, and an important way for children to express their love.

sensationalised articles (particularly surrounding the outbreak of viral fevers such as bird flu, dengue or chikun gunia).

In television programmes doctors educate the public about different diseases and conduct live phone-in sessions with patients. Programmes begin with the doctor introducing the disease in biomedical language – in subjects ranging from cancer, to cardio-myopathy, obesity in women etc. Programmes provide patients with biomedical knowledge, thereby increasing people's exposure to scientific understandings of disease. Risk is emphasised, as doctors outline possible complications associated with minor and major conditions and the necessity of consulting a doctor. For example in a programme on 'cardio-myopathy' the doctor begins by saying 'the exact cause of the disease is unknown.' The media has played an important role in increasing awareness of 'so many new diseases' e.g. Parkinson's and Alzheimer's, generally fuelling anxieties in an already health conscious population. For example, following the film *'Thanmatra'* (particle) about a family adjusting to life with Alzheimer's disease, doctors reported increased numbers of patients visiting their surgeries with concerns about their memory.[185]

Health information in the media is extending the lay public's exposure to a biomedical world-view. In the case of people with chronic illnesses e.g. renal patients, information in health magazines can be useful, providing patients and their by-standers with greater understandings of biomedical tests, diet and numbers used to monitor the progress of the patient. In the clinical context this can be used by some middle class patients to get more information from doctors. However this is in exceptional circumstances, when people are living with serious conditions. In the majority of cases, information increases people's exposure to technical biomedical information, in a way that reinforces lay ignorance and the superior knowledge of the doctor, fostering dependency. Otherwise, knowledge functions to raise awareness of new services by clinics, and knowledge of and anxiety about disease. For example, there is now greater awareness that swelling of the leg may be a sign of kidney disease and some patients visit surgeries concerned about having a kidney complaint. For the paternalistic physician in the mission hospital, he is critical of the media for giving people all this information that merely confuses them. This contrasts to doctors who

[185] Epidemics, such as 'bird flu' became headline news for weeks, prompting many to visit the doctor. This was in response to two birds found infected in Maharashtra (over 1,000 km away), although this is not a trend unique to Kerala. E.g. the recent coverage and response to the 'swine flu' epidemic in the UK.

emphasise medical risks, who argue that if patients seek treatment, the problem can be diagnosed and treated at an earlier stage.

The way in which biomedical information is presented to the general public is laden with technical terms – for example, in the programme on 'cardio-myopathy' the doctor begins by naming the chambers of the heart. The use of biomedical knowledge reflects the fact that when doctors are educated at medical college, they learn the 'correct' language through which to talk about disease. On the one hand, doctors are merely educating the public in the language they have learnt and understood disease through, reflecting a view of medicine in which there is a singular way of knowing disease.[186] While some older generations of doctors have learnt the art of 'translation' in a limited sense, dealing with patients using vernacular terms to ask questions, few modern doctors are skilled in the art of translating 'super-speciality' medicine into comprehensible layman's terms – it is not an aspect of clinic work doctors have been challenged to think about. The doctor understands his job is to conduct consultations, to treat patients and to work on disease. The idea of 'translation' in super-speciality medicine is in its infancy beyond providing people with sufficient information that they consent to procedures, although heart by-pass patients now undergo counselling, so they understand what the procedure involves and what their stay in hospital will entail. In some instances doctors use scientific language instrumentally in clinical contexts and in the media, to reinforce the superior knowledge of the doctor and the authority of science. Instrumentalism sits alongside the 'naturalised' usage of biomedical language for disease.[187] However several educated informants accused the medical profession of manipulating patients, by making them more concerned, anxious and fearful about disease, reflecting middle class resistance to medicalisation – particularly common amongst chronic patients.

Trust and the Doctor-Patient Relationship

As Marriott (1955) notes, people in India have three spheres of trust – of family and kinship; of community and village; and the outer sphere, which belongs to the realm of money and power. In matters of healing, while people in India have idealised the relationship between the doctor or *vaidyan* in kinship terms, people have had to rely on healers from outside the first two realms. While operating in the wider sphere, selective forms of trust have been important in guiding people's

[186] I also found this a problem in conducting research that I had to learn the language of biomedicine in order to interact with many doctors who restricted explanations to medical terms.

[187] For example, refer to the explanation of jaundice at the start of this chapter.

behaviour (Harriss 2003, Gupta 2000). People have relied on established values – on the advice of family and neighbours and of healers who have become popular for the treatment of particular conditions (Lambert 1996, Nichter 1996). In India, there is a tendency for people to shop around for health care, as a sphere belonging to the outer realm in which have few have moral claims, and the fact that people have belief in different healers, which overrides the necessity of personal connections to the medical practitioner – if people have belief in the particular knowledge of that healer. However as a result of declining levels of trust, high expectations of treatment, chronic conditions, a new culture of testing, differences in the style of treatment, costs and suspicion about corruption, people have further extended their health shopping behaviours.

As Harriss (2003:768) observes, the problem of trust in India is ironically that certain selective forms of trust are so strong, which has inhibited the development of other types of trust. Concomitantly as a result of high levels of selective trust, there is a weak generalised morality in India. This is an important factor affecting the behaviour of both doctors and patients in the health care market as both are treating people with whom they are less familiar. Health care is a significant area in which people are forced to work outside networks of selective trust because of the elite status of doctors, that few have social claims, making doctors and patients more anxious – as doctors charge more for services and treat patients with complex problems, and as patients sometimes doubt the reasons for medical decision-making.

Levels of trust have changed as a result of the rise of super-speciality medicine. Many doctors now work in private hospitals rather than performing the role of a family physician in the community, which was an important resource valued by members of the middle class. As elite super-specialist doctors become the dominant providers of health care, the majority of patients have insufficient connections to exercise moral claims on specialist doctors in large hospitals. As more people seek health care in the more impersonalised context of the urban marketplace, they are putting their faith in abstract systems – of technology and the most highly qualified super-speciality doctors. Doctors are no longer as familiar with their patients and may only see them on one occasion, compared to the greater professional satisfaction from having regular patients. General clinicians also value and claim to have regular patients, although apart from cordial interactions with some regular middle class patients, this was rarely apparent from observations in the clinic. Thus although doctors and patients

appear to value long-lasting relationships, in practice the rise of super-speciality medicine, greater consumer choice and commercialisation has somewhat eroded longer-lasting relationships.

Public Discussion of the Doctor-Patient Relationship

The doctor-patient relationship has become a focal point for discussions of recent transformations to modern medicine – amongst concerned activists, the Indian Medical Association, highlighted in the media, and the local medical and patient population. Amongst the medical profession, generally there is anxiety about what is perceived to be the deteriorating atmosphere in which medicine is practiced, and many doctors have become concerned about the worsening state of affairs. Summarising the opinion of the Indian Medical Association, one local academic and practicing doctor explains the situation,

> "Patients or consumers, have become aware of their rights, and demand to know every detail of their illness and treatment plan. Moreover, in their effort to make sure they get the best available care, they 'shop around.' i.e. they consult more than one doctor whenever someone is ill. Most health care consumers are ready to sue their doctor or hospital at the slightest suspicion of real or imagined malpractice. Health care providers on the other hand feel that patients intrude into what is really not their territory and resent the patient's questioning of treatment decision. Generally there is an atmosphere of mistrust. This results in both sides being unhappy" (Kutty 2006:300-1).

Concerns amongst the medical profession have been fuelled by the extension of the Consumer Protection Act (COPRA) (or CPA 1992[1986]) to cover the delivery of health services. For local representatives of the Indian Medical Association (IMA), the act is viewed as an unnecessary intrusion into medical affairs, demeaning the status of the profession to that of a 'trade' and reconstituting the patient as a 'commodity.' [188] Doctors highlight this has led to escalating costs, as physicians practice 'defensive medicine' as doctors become more inclined to order costly and unnecessary investigations (Kutty 2006:301, Bhat 1996, Peters and Muraleedharan 2008).

[188] Fieldnotes. President of the Kerala Branch Indian Medical Association, speaking at Annual Conference, Palakkad May 12-14th 2006).

Although the Consumer Protection Act has unsettled doctors, and it is mentioned by doctors as a reason for ordering more investigations, this did not significantly shape the attitudes of the doctors I observed practising medicine in different clinical contexts. Although the act is mentioned by different doctors and the fear of litigation or more generally risk in treating the patient is present, I met only one doctor who had been summoned to give evidence in the consumer court. The total number of cases filed against doctors and private hospitals at the local consumer court since 2000, was only 57. Of these, only 25 per cent of cases filed found in favour of the claimant, and in only a few cases (one of which involved a doctor suing a hospital) were significant damages awarded to the plaintiff.[189] Most cases take years to process and remain outstanding long after the case has first been raised. Furthermore, the professional reputation of the doctor or the hospital is not being undermined by such action, as information regarding the case is kept at the court and not publicised in the media.

The introduction of the CPA and more knowledgeable consumers has unsettled the previous basis of professional authority in which the moral duty of the patient is to submit their body to the expert authority of the doctor, in return for which the doctor is guided by a professional ethic to act in the interests of the patient. In the clinical context, the act can be used to legitimate supplier-induced demand, for doctors to practice 'defensive medicine,' in order to produce visual evidence of cases. However the term 'defensive medicine' is also commonly used by some older generations of professionals (i.e. ex-Medical college doctors working in the private sector), when patients ask more questions about their illness and the doctor's decision about how he is going to treat their case. The term 'defensive medicine' reflects not only the fear of legal challenges to the doctor's authority but reflects greater consumer questioning of medical authority, as people gradually assume a more active voice in the clinic consultation.

While individual cases of medical negligence commonly appear following medical errors in the government sector, in which case the doctor is publicly named and shamed, whereas reporting of cases in the private sector is generic. The media has played an important role in increasing awareness and fears amongst the general public about the unethical behaviour of private hospitals, fuelling a sense of *dis*-ease in the health care system. English language and vernacular papers periodically run series of articles, which highlight the ills of the health sector. For

[189] This is based on an examination of the records of all court cases filed at the local Consumer Court since 2000.

example, a critical series in the Indian Express newspaper entitled 'Fleecing Human Misery,' states,

> "Our private hospitals might boast the latest diagnostic and therapeutic facilities, but for the common man they are instruments to *suck* their hard-earned money, rather than life-saving devices." (Rajiv, Indian Express 28th August 2007 p6)

In a highly literate state where people regularly read articles about the health system, the media has played an important role in undermining trust in the medical profession and hospitals. Articles detail the fact that doctors are accepting money from pharmaceutical representatives for the prescription of certain drugs and that doctors are receiving money for scanning, as issues raised by sceptical members of the middle class. Several respondents also expressed concerned the rich can now buy medical degrees from private colleges, which ultimately will be recouped from the patients. Educated members of the Muslim community of different ages were most vociferous in their criticisms. Cynicism is higher amongst this community, reflecting the higher level of interest in the health care system, generally higher levels of dependency on the health system, and the fact that the lives of newly affluent Gulf migrants are most commonly being medicalised with scans and tests. While this is welcomed by less educated members of the community, it is resented by more educated informants who criticise what they view as 'unnecessary' responses.

Media reporting of *dis-ease* has contributed to the problem by raising awareness of problems in the health system without increasing democratic accountability (cf Peters and Muraleedharan 2008). The reporting of unnecessary investigations, and incentives, personal experiences of unexpected caesarean sections and the recommendation of further investigations are an important factor reinforcing anxieties about the motives of doctors and the health care industry. Two educated men from the Muslim community had cut out clips of articles about the private health system, which they had kept for years, and were eager to show me as evidence of disease within the system. Knowledge circulating in the media has thus contributed to undermine public confidence, without providing individuals any means to resolve the situation. However only one third of the sample of patients spontaneously raised concerns about what appeared to them to be excessive charges or concerns about corrupt practices.

Perceptions in the media are reinforced through everyday experiences and the circulation of stories of unsatisfied consumers. In contrast to the professional duty of doctors to treat sick patients, doctors in private hospitals will not start treating a patient unless there are by-standers there to allow the treatment to proceed and to agree to pay for services. This is particularly problematic in accident cases as critical time is lost. Private hospitals will also refer poor patients straight away if the outlook of the case is not good, and in some cases poor patients are not admitted, if the hospital is worried about the costs and the risks involved if the case is serious. Hospitals in periphery areas are increasingly being subjected to violent attacks, in angry out-bursts by relatives, particularly if the patient has died, when their relatives have to pay the bill for the treatment received. Large hospitals have been able to mitigate against this risk somewhat by referring poor patients, although several doctors I spoke to admitted to being frightened when having to tell relatives the patient had not survived. Although violent attacks against hospitals or doctors are rare, attacks are publicised by the Indian Medical Association and discussed by doctors, thus magnifying the anxieties of doctors and hospitals.

Occasional violent outbursts against hospitals are often momentary releases of grief, when people want someone to blame for the death of a relative and are further aggravated by the bill. Generally concerns over the rising cost of health care are exacerbated by the fact that awareness is low about the cost of technological inputs. Therefore although hospitals have increased costs, largely as a result of higher technological inputs, this is interpreted by patients as hospitals and doctors as becoming more money minded. Resentment against charges reflects the fact that people do not necessarily understand the potential financial expenditure involved in hospitalisation, and further exacerbated by the fact that charges are not discussed with patients. Therefore in many examples where cost was an issue, patients only come to realise the expense of the treatment received when receiving the bill, after several days of hospitalisation, or when the patients is being discharged. Thus people are presented with a bill upon leaving hospital, without necessarily being aware that expensive medications have been provided. The lack of transparency about treatment costs is therefore an important factor shaping dissatisfaction and scepticism about whether all items charged for have been delivered to patients. For example, when a middle-aged journalist from the Hindu community showed his friend the bill for treatment in a large super-speciality hospital to which he had been admitted for a fever, his friend asked why he had a colonoscopy for his problem?

Although he had paid for the service, he went back to the hospital and eventually received a refund. He attributed this to the fact the hospital knew he was a journalist, whereas he thought less educated Gulf migrants would not know to check the bill or to reclaim the money. Rather than a mistake, he viewed the incident as evidence of unethical practices.

Strong reactions against the Consumer Protection Act have led to a discourse at least, of doctors now being accountable for their actions in the Consumer Court. Although patients are putting their faith in abstract systems – such as the qualifications of a particular doctor, the reputation of a hospital for good doctors, in the belief they will benefit from higher levels of expertise, they are doing so largely without social claims upon the doctor. Meanwhile media reporting has increased concern doctors are using technologies to extract money from patients. However in the case of less educated Gulf migrants, patients are more willing to unquestioningly accept tests such as CT and MRI scans if they can afford the expense.

The amount of social capital and connections different patients have to doctors varies considerably. When 'big people' come to private hospitals, this causes a considerable amount of anxiety amongst doctors – i.e. politicians, senior policemen, bishops or *thangals* (local family of Muslim religious leaders). Social networks are extensive so that anyone associated with 'big' people are also treated with extreme caution and greater care. For example one doctor was highly anxious over three days, as the mother of a driver of a local politician was in his care in a highly critical condition. More generally, the family members of senior consultants, noted professors, headmasters of schools or colleges etc. receive more personalised attention in hospitals and doctors are keen to satisfy these patients, spending more time explaining treatment, prognosis, discussing any symptoms and the patient's health.

Across all areas of social life people will commonly rely on social networks rather than approaching any task through impersonal means. Those who have connections to doctors tend to make extensive use of social networks and generally doctors are some of the most important people to know. As a result, some doctors in smaller private super-speciality hospitals spend a considerable amount of time during outpatient clinics on the telephone doing favours for business and family contacts. Doctors use their connections amongst the medical profession (both financial and professional), to give advice and to pass on the

contact of other doctors and to patients. This also reinforces the power and busy-ness of doctors, as patients sit in the outpatient clinic, waiting for the doctor to finish phone-calls. Thus a considerable amount of responsibility is placed on doctors to fulfil social obligations to extended networks of relatives, friends and acquaintances.

In one outpatient clinic, the doctor conducted a significant amount of business – purchasing life insurance from patients, arranging train tickets from the owner of a local restaurant, getting a pharmaceutical representative to organise flights and payment to attend a continuing medical education (CME) programme - using his services as an important way in which to get other things done. The ways in which the doctor practices medicine means he is able to build up longer-lasting relationships with specific clients to whom he provides greater personal care and attention – listening to the patient's problems, explaining their illness and providing advice. Thus by conducting medicine as a business, patients are also able to develop better relationships and receive care from the doctor. He also sells middle class diabetic patients glucose testing kits, although patients do not look very happy when he passes on their numbers to sales representatives. He reinforces that it is good because he can download all their information on his computer. However, for patients the fact that doctors are receiving money from pharmaceutical representatives is an important source of moral consternation because they can't be sure why doctors are prescribing medicines.

In larger hospitals doctors are busy treating huge volumes of patients. In this context patients are paying high fees for a relative small window of opportunity in the doctor's consultation room – in the region of Rs 170 ($3.40). With the exception of middle class patients, consultations may only last a few minutes. For lower middle and lower class patients, having 'seen' or having 'showed' the problem to the doctor is the principle of medical consultations, and the expected outcome of checking, the prescription of medicines or basic tests. Given that 'super-speciality' doctor in large hospitals are generally treating patients who are unknown to them and may only be coming for a one-off consultation, this raises anxieties on the part of the doctor, that under these circumstances, doctors feel they have to practice 'defensive medicine' e.g. ordering more investigations and prescribing the most expensive medicines, because they need to provide the best care to patients otherwise they will complain, cause problems or sue the doctor. Thus by placing the blame on patients for causing problems, doctors can justify to themselves the necessity of ordering more investigations.

In the context of a competitive marketplace some doctors undermine patient confidence by asking 'who prescribed this medicine?' openly criticising the decisions of other doctors. This is a matter of consternation for many doctors, regarded as a violation of professional codes of ethics. On the one hand, some doctors like to consider their own unique talents in medicine that only they are able to cure the patient's disease. However for patients, criticism of other doctors further raises doubts about the competencies of different doctors, which is sometimes reinforced by individual doctors looking after their own self-interest to win the confidence of the patient, while undermining patient confidence in other doctors. At the same time, most doctors are concerned by the lack of patient trust nowadays. The following section examines patient perspectives before bringing analysis together to examine transformations to the moral economies of medicine.

Patient Perspectives on the Doctor-Patient Relationship

The system of family medicine is breaking down as more people use local hospitals in the treatment of minor illnesses rather than local doctors. This reflects the fact that local doctors are less willing to engage in family practice e.g. visiting the household. Some families have doctors they can phone and doctors will prescribe medicines over the phone, although big super-speciality doctors are less likely to engage in personal favours unless there are strong social connections. Several middle class informants regretted the loss of these personalised aspects of service provision, as doctor's retreat to private hospitals. However, by consulting doctors privately in the evenings people hope to receive more personalised forms of care.

Muslim men in particular commonly say they seek treatment from doctors who are 'good friends,' a term commonly used to infer people have personal relationships with doctors, although the extent to which people have moral claims to better care varies considerably. The term 'good friend' can refer to being a regular patient of a doctor for a chronic health problem, although people may occasionally drift to different centres. People value seeing one doctor for a chronic health problem, because the doctor will be familiar with their case history and can adjust their medicines. However, the advice of a friend or neighbour describing a similar problem that was treated by a particular doctor may influence consulting another doctor. In paediatrics and to a lesser extent in general medicine it is more common for people to build up longer-lasting bonds with their

doctor and to use their services more exclusively over the years. Although it is common for people to present themselves as having a close relationship with one or a couple of doctors, the bundles of medical records from many different doctors and diagnostic clinics are testimony to the extent to which people shop around. This reflects people's belief in the capabilities of different doctors, expectations of a fast cure, awareness they can consult a specialist for a particular problem or part of the body system, and optimism there is a better form of treatment or cure available.

Expansive social networks are an important resource, mobilised to improve the quality of care and attention provided in hospitals. However, for the majority connections do not extend to larger hospitals with the exception of people, predominantly from the upper-middle class, who can mobilise contacts. Some super-speciality hospitals and doctors are so popular they do not need to be more consumer-oriented to cultivate longer lasting relationships. However, given the competition for patients, providing more personalised forms of care can and in some instances does encourage doctors to build longer-lasting relationships. In addition to receiving more personal attention from doctors, good social relationships with doctors can be used to receive fairly modest reductions on bills for extended periods of hospitalisation. Amongst the Muslim community, elites from the community sometimes negotiate a discount with the hospital on behalf of poor patients. Any small acts of kindness such as the reduction of large bills are received with considerable amounts of gratitude. Similarly any small favour of a doctor that goes beyond the normal realms of service is highly valued and is an important event in people's lives. For example, my landlady fondly remembers the doctor who allowed her to sleep under the cot of her newborn baby in medical college, where mothers are not ordinarily allowed to stay. She was able to because her neighbour's cousin was the driver of the doctor at medical college.

Social contacts with doctors are extremely important to access care in emergency situations. Hospitals are generally risk-averse, reluctant to perform complicated procedures on people with chronic conditions. For example, following a road accident one female teacher was able to phone all the doctors she knew to ensure her father received the best care. Without these connections the neuro-surgeons said they would not have performed the potentially life-saving operation, because her father was a seventy-two year old diabetic, who had suffered a mild heart attack ten years before. Poor patients have considerable problems accessing

treatment. In emergency cases people are sent immediately from private hospitals to medical college without receiving treatment. More generally private hospitals are unwilling to accept patients in a highly critical condition, although the new corporate hospital is more willing to accept such cases. Private hospitals are extremely reluctant to perform operations on poor patients, even if they have money to pay for treatment, due to fear if things go wrong. Thus because of the high financial costs associated with critical care, hospitals are highly risk averse.

People have developed belief in the superior capabilities of doctors and technologies in large-super speciality hospitals, despite the fact that few have moral claims on these doctors. However rather than following 'abstract' forms of trust in universal standards in expertise and technologies, decisions to consult particular doctors reflect commonly held local beliefs. Established values are a) the former heads of department of government medical colleges regarded as the 'best doctors' (because they have seen the maximum number of cases and secondly, due to higher perceptions of altruism because they have been engaged in social service); b) government institutions and government doctors more generally (Jeffery and Jeffery 2008); c) any doctor who has conducted a big procedure or medical first e.g. cochlear implantation treatment or renal transplant; d) neurologists and cardiologists as super-specialists with the most qualifications; e) doctors who become local celebrities as authors, columnists in health magazines, public speakers and the owners of small and large hospitals; f) allopathic doctors who have also trained in āyurveda (rare); g) older doctors with more knowledge (although this has become less important because of technology); h) famous local doctors from the *Thiyya* and Muslim community – most notably the two most successful private hospitals who set up Cath laboratories, employed doctors from these two communities, attracting many patients accordingly (further discussed below) i) doctors with more letters after their name - post-graduate qualifications (doctors with the British qualifications, MRCP and FRCP have more letters after their name, although people don't particularly value or know these doctors have studied outside).

As certain doctors become famous, others follow so success breeds success and notoriety, and certain doctors become established values in the health care market, as 'good doctors.' A handful of doctors become incredibly successful, because it is more prestigious to get treatment from doctors that other people know, perpetuating the phenomenon and belief in doctors who attract the most patients. For example, there is one 'ortho' doctor who everyone wants to see,

and although other doctors are performing more sophisticated techniques, this doctor first became famous for doing hip and knee replacements. However he is consulted for any bone related ache or pain. Local values produce a situation in which there are a few 'super' doctors, while the majority struggle to get patients, particularly difficult for those starting out in their careers. Many doctors therefore have limited social networks through which to automatically establish good practices. Although people have more belief in 'big' doctors, they treat huge volumes of patients. Thus these doctors are less able to give more care and attention to individual patients also increasing the extent to which people will shop around, as people have less social intimacy in their interactions in these contexts and are provided with less information, as famous doctors have larger number of patients and thus shorter consultations. As patients have few social connections through which to establish better relationships with doctors, people are more likely to shop around, if 'big' doctors just prescribe medicines or tests.

Beyond family, community and business networks, few have good permanent relationships with doctors or hospitals. Because favours are less forthcoming and patients have transitory interactions with doctors this becomes a self-perpetuating dynamic driving people to shop around amongst higher centres. While older women cited the belief in different doctors as a reason for shopping around, several middle-aged informants argued people shop around because 'doctors are so unethical these days.' Several other educated patients referred to the fact they can no longer believe if they are told by a doctor that they need some operation or test - they want to get a second opinion from another doctor. While several lower middle class women warmly described the old diagnostic style of the doctor – using the hand to feel the pulse, the stethoscope to listen to the heart, only middle class informants expressed cynicism that in the age of high tech medicine, the 'stethoscope has become an ornament.' Several lower middle class male informants expressed declining levels of faith in the morality of the medical profession. As a result, greater faith was expressed in machines, which can know the exact state of disease that the doctor may miss. However amongst the middle class it is more common for machines to be seen as a form of exploitation as doctors ask people to do more tests - reflecting the fact that doctors do ask patients from the middle class to do more tests because they can afford. Others were very critical of the media and the medical profession for making people fearful of disease, as a deliberate ploy of doctors, reflecting the fact that people prefer to know they are well or for the doctor to prescribe

medicines to improve how they are feeling rather than being referred for tests which confirm they are sick.

The system of 'super-speciality' is highly confusing, as people easily end up seeing the wrong specialist because patients have choice in self-selecting doctors. For example, for any abdominal pain, people can choose between a urologist, a gynaecologist, a gastro-enterologist, a nephrologist, or a general physician. Basic awareness of the meanings of different specialisms and which part of the body machine the doctor treats is there. However, people depend on the name and fame of a particular doctor rather than deciding their problem requires the attention of 'a urologist.' For common illnesses such as stones people are not sure which specialist to consult as they can occur in the kidney, the gall bladder, and the pancreas, requiring the treatment of a urologist or a gastroenterologist. Doctors report patients can become frustrated if they have to refer them to see other specialists, particularly if they have been recommended by a friend to see a particular doctor.

In some cases, patients will go for investigations in higher centres and then search for a cheaper hospital to do an operation – such as the removal of a kidney stone. I met several people who did not want to undergo an operation for a stone problem or they could afford to pay for it. In this case people shop around between different specialists and doctors, and other systems of medicine, receiving a mixture of further investigations and symptomatic treatment. For example, one woman with a stone in her pancreas (less common) has been to every large hospital over the last three years. She is fearful of doing the operation in a cheaper hospital, and cannot afford to undergo the operation in a large hospital where the operation would cost Rs 12,000 ($240). Meanwhile, she is in considerable pain and continues to move between different doctors accumulating advice, investigations and medical records.

Despite the term 'super-speciality' hospital, people generally arrive with the name of a particular doctor they intend to see. Having decided to see a particular doctor, specialist doctors will say it is their responsibility to check for any problem within that particular organ or system of the body. Then only will patients be passed onto another doctor. This is another way in which defensive medicine is practiced if doctors exhibit a professional duty of care by ensuring there is no problem in that area of the body, which can also lead to the medicalisation of simple health problems and the over-use of diagnostic tests. In the corporate

hospital where doctors are salaried employees the system is set up for doctors to refer patients to other departments. However, in other centres this is not the case. More generally doctors are less willing to refer patients, because it undermines the confidence people have in that particular doctor. This is also a considerable problem in rural areas, where doctors are reluctant to refer patients, unless the patient is seriously ill, because the doctor does not want to have to admit that the problem exceeds the doctor's expertise. Financial networks act as an important lubricant to ensure more patients get to see a more appropriate doctor for their problem, thus compensating rural doctors financially for the loss of income and the potential loss of the patient.

Because people self-select specialist doctors, famous doctors can be used to treat any kind of problem. This is particularly common in the case of cardiologists, who are generally considered to be the best doctors because they have spent more time training. Seeing a cardiologist is more prestigious than other doctors, then a neurologist, as the heart and the brain are seen as the two most important organs of the body. Although people refer to cardiologists by name because they are famous, there is low awareness of the difference between doctors who treat patients symptomatically or those who conduct angiograms. For example, I met one woman who was complaining of breathing difficulties, who told me she should go and see the famous cardiologist from medical college about her problem. She complained it was difficult to get an appointment as he was booked up months in advance. Her friend listening on scolds her saying this is unnecessary that she should just see a local doctor.

The cardiologist who works in the corporate hospital is particularly popular amongst the Muslim community, as the son of a famous doctor, who owns a small local hospital. Because of the prestige of his family, the doctor is one of the most famous doctors in the city. He has patients who come and see him for minor ailments (e.g. colds and flus), even though he has trained as an interventional cardiologist who diagnoses coronary artery blocks using angiograms. Although angiograms have become a more common diagnostic modality, unlike CT and to a lesser extent MRI scans, there is low awareness of angiograms, that I found the only patients who had undergone an angiogram were aware of the test by name. People consult this doctor because he is a trusted local doctor, that I did not find anyone who was aware he is someone diagnoses heart disease by angiograms. If initial ECG and treadmill tests are positive, he will assess the patient's financial situation – if they have money coming in from the Gulf. Generally people will be

keen to say they have money and trust the doctor, he is advising the best treatment. He is trained to conduct the technique and carries out his work as the best way to deal with the problem – by knowing the extent of coronary artery blockages. He is concerned he can only assess the risk of someone having a heart attack or the need for an intervention to avoid an attack by seeing an angiogram. As a result, few patients receive a full check up in his surgery because the doctor spends his time looking at the results of initial investigations, planning angiograms, looking at the results of angiograms or counselling patients about further interventional treatment.

A significant number of patients come to the doctor with CDs of angiograms, which have been taken from another hospital. People come to show him the angiogram to gain a second opinion, to check what another doctor has said, and to confirm whether a surgery is necessary. Although he views the issue as a lack of trust, it reflects the fact that people may not have money or the desire to do the surgery, so people go hunting for different opinions. If patients decide to undergo a by-pass surgery, the doctor encourages people to seek treatment from local MD doctors in the periphery, although patients often still keep coming back to see him, as there is belief he is the best doctor. For rural patients, by coming to see the doctor in the city, this transforms seeking treatment from the doctor into a day out. Seeing famous doctors is an important way in which lower middle class people in particular cultivate sophisticated modern identities, by displaying knowledge about different doctors and telling others if they have consulted a particular doctor.

As patients are consulting super-speciality doctors often for simple health problems, doctors are more likely to fully investigate problems. By not doing so, their skills and the technological set up of the hospital are under-utilised. In many instances because people have the belief in the superior set up of doctors and technologies and because there is prestige associated with going to large super-speciality hospitals, sometimes these centres are used as primary health care centres. Although most working people prioritise convenience for the treatment of simple health problems, the families of rural Gulf migrants constitute a significant proportion of patients in large hospitals. Patients often enter doctor's surgeries with large bundles of test results, prescriptions, or discharge summaries accumulated from different institutions in rural and urban areas, handing these over for the doctors to see at the start of consultations. The doctor in the mission hospital jokingly compares the typical Keralite patient to a

red Indian Chief hunting for the scalps of white men, as people in Kerala hunt for the white papers of doctors, in his opinion, to indicate they are bigger and better than others. Although there are many different reasons why people go shopping for treatment, some other doctors were more critical of doctors who don't care whether patients come back or not.[190] This concurs with the opinions of more critical members of the middle class, who complain that doctors in super-speciality hospitals don't care for people and are just asking machines in order to take money. However lay criticism does not adequately take into account an appreciation of the changes to the style of medical practice when seeking treatment from large hospitals, where doctors are set up to use their knowledge and skills to perform specialist diagnostic techniques, such as angiograms or other investigations.

Analysis: Shopping for Re-assurance

The world of high tech medicine 'luxury' technologies and the cost of health care have magnified already high expectations of good health care and better health. Doctors have not reduced patient expectations of a cure for their problem. Meanwhile patients aren't necessarily approaching doctors with the expectation their problems will be investigated before they are treated. Many patients approach doctors because they are famous and therefore expect to benefit from their superior knowledge, rather than patients having awareness of the actual medical expertise of the doctor – e.g. expecting a doctor who has conducted cochlear implant surgery to be the best doctor for any Ear, Nose or Throat problem. The dream of a disease free modernity has been soured as technologies diagnose more people with 'big diseases,' the severity of which they do not understand. The centrality of diagnosis to super-speciality medicine in a low-income context reflects the fact that many people are being diagnosed with more complaints, without the necessary financial means to proceed further with treatment, or because patients do not want to undergo more sophisticated interventions or surgeries, or hold onto the belief that another system of medicine may provide a cheaper effective cure, for example for kidney stones. Patient satisfaction with local doctors is higher because local doctors are more likely to re-assure patients and provide symptomatic treatment. However, many are lured to big hospitals because of chronic health problems and expectations of better treatment there.

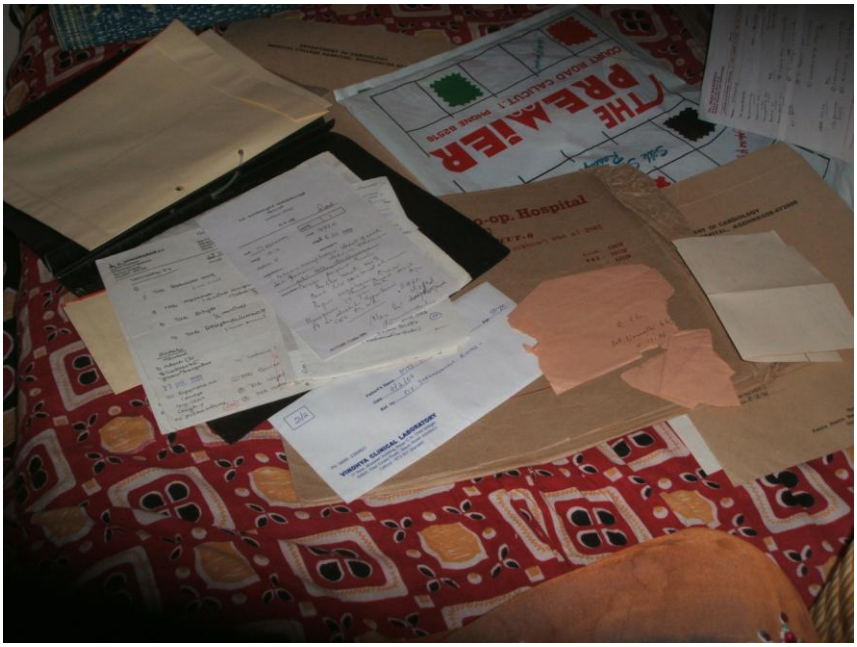
[190] This was the opinion of two younger doctors, one psychiatrist and one older clinician.

Although the educated middle class criticise the amount of testing, this has not been accompanied by an understanding that higher standards of care have transformed medical practice - from symptomatic relief to doctors wanting more evidence to investigate problems before they are treated. However, technologies raise expectations of better care and a cure, while the focus of treatment in the case of interventional cardiologists focuses on diagnosis, discussion of coronary artery blockages or arrangements for heart by-pass surgeries, which distracts attention away from wider advice regarding lifestyle and clinical management of cases through medicines. Therefore because specialist doctors are not necessarily focusing on the immediate health problem experienced by patients, they are more likely to shop around. Furthermore, as people are diagnosed with heart problems or other chronic conditions, which may leave them feeling asymptomatic, patients are less willing to accept a medical diagnosis they are ill, if they do not feel unwell.

In this context people are often shopping for reassurance – for doctors to say that they do not have a significant problem, to declare they are healthy, to say that an operation is unnecessary, or for a doctor to provide symptomatic relief (such as paracetamol). Although patients may seek reassurance regarding the severity of their health problem, doctors in large super-speciality hospitals claim they can no longer afford to take such risks. As heart attacks become a leading cause of death and patients suffer from multiple ailments, particularly as a result of poorly controlled diabetes, patients maintain hope doctors will have a cure for multiple ailments and complications, when this is not possible. However poor communication between doctors and patients means that patient expectations of better health remain high. As more patients live with disease labels, which may not cause symptoms, the extent to which people worry about diagnosed and untreated problems varies. People from the lower classes tend to be more ambivalent, whereas some middle class patients are more likely to blame doctors for their anxieties and resist medicalisation. For example, the owner of a bookstore went to the doctor with 'gas trouble'. The doctor told him he had a heart problem, that he couldn't fly to the Haj and that he needed to take rest. He went anyway and took pride in telling me there was no problem. He continues to feel in good health, and says he prefers taking āyurvedic medicine, describing English medicine as dangerous medicine.

It is increasingly common for poor patients who have had rheumatic fever to be diagnosed with heart problems, which develop as a result of the fever later in life.

Patients are given labels such as 'carditis', (inflammation of the heart valves), which few have the income to treat and because patients do not experience symptoms, they tend to ignore the problem. Doctors advise people to have surgery to correct the problem, but many instead live with the problem of knowing there is damage to their heart. Treatment seeking behaviour for such problems can be erratic. For example, one elderly grandmother in her 50s was diagnosed with a hole in her heart '*hridhayathil sushiram*.' She tells me, the doctor had a look at it 'on TV' and recommended surgery but she doesn't want to do it. She occasionally goes for check-ups with different doctors to get medicines. She has been to see many different doctors but they still tell her there is a problem. However she is more concerned by chronic joint pain and headaches, which she attributes to blood pressure. Her medical records, which she keeps under her bed are shown below.



Although, like many elderly people with blood pressure and diabetes, she is concerned by chronic pain for which she regularly consults one doctor. [191]

[191] Each envelope contains many scripts - of prescriptions, blood test results from approximately twenty different centres, accumulated over the last eight years – from government medical college, small scanning and diagnostic laboratories, private doctors and smaller super-speciality hospitals. It is extremely difficult for people to talk about their choices and why they have decided to go to different places. In this case the patient went to see the doctor to receive some kind of assurance the surgery was not necessary, so then people can feel less anxious about the problem.

The Perspectives of Doctors

For doctors, the world of high tech medicine and shifting disease patterns have reduced personal levels of satisfaction, as many doctors are managing patients with chronic illness. The ideal of cure in medicine is limited to simple health problems or fevers, compared to the high volume of patients with complications associated with Type II diabetes. The moral economy of esteem formerly bestowed upon the doctor by patients for curing their disease has generally decreased. Faith in the previously omnipotent doctor with the ability to know disease by touch and sight has shifted to technologies, reducing perceptions of the power of the clinical skills of the doctor amongst the lay population. Equally amongst the medical profession, faith in their clinical skills has decreased as new technologies have come provide more information, and different ways of knowing the body and disease. However this information is often only useful in the clinical management of cases, if patients are willing to undergo interventional treatment.

The idea of clinical skills becoming out-dated amongst the medical profession is significant, particularly among younger generations of doctors, radiologists and technically skilled super-specialist. Doctors have thus higher demands for more information before treating patients. Some doctors narrate that disease processes have speeded up, that when clinical signs are showing it is now too late to treat the disease. For example one young doctor, with a basic MBBS qualification echoes the sentiments of cardiologists,

> "To know the exact state of your heart – I need to do an echo and an angiogram. Before we used to do clinical skills – that was in the olden times – now the disease will have come. It will have developed when the clinical signs are showing."

This comment illustrates the ways in which doctor's demand for technologies reflects the idea that clinical signs only emerge once the disease has already caused damage to the body. Given the significant skill and knowledge it takes to become a competent clinician, technologies are a welcome addition, reflecting doctor's increased demand for medical certainty, in the uncertain world of medicine (Helman 2006, Weatherall 1995, Barritt 2005). New technologies have decreased doctor's confidence in their clinical skills and the necessity for more technology to improve standards. In a context where doctors are treating patients who are less well known to them, sometimes suffering from complex health problems, doctors live with considerable anxieties. It is common for

doctors to say, 'we have to take so much risk now to treat the patient.' Meanwhile because more patients are asking doctors questions, some feel challenged that patients no longer have any respect for the authority of the doctor.

The demand for knowledge has become an important factor shaping the values and attitudes of doctors. However because information is not necessarily systematically used in the clinical management of cases, particularly if patients move to another doctor, the focus on information production is sometimes occurring to the detriment of patient oriented care. Doctors now value knowing the exact state of disease – of taking a CT scan before acting in an emergency case or using angiograms. For patients, even if doctors have knowledge to understand the problem and to correct it, if patients do not undergo a corrective procedure, information does not contribute to better patient care. Doctors commonly blame patients for not being systematic – of having problems half treated or half investigated. However because the actions of the doctor are not ordinarily explained to patients, this limits the extent to which people will stay in the care of one doctor for an illness episode because they expect their problem to be relieved quickly. This reflects high expectations of modern medicine for a fast cure, and doctor's reluctance to explain and reduce expectations.

One doctor described how he was trying to explain a problem to a patient, and was shocked when the patient told the doctor to just prescribe some medicines. I saw only one occasion when a patient appeared disinterested, when the doctor chose to explain more about their health problem – to a chronic diabetic. Generally patients are keen to know more about health problems. However doctors complain that advice about changes to lifestyle are not palatable to patients, compared to the dispensing of medicines. This contradicts the value of treatment from other practitioners of medicine, and the prescription of dietary restrictions is a welcomed and important part of the perceived value of consultations. However lifestyle advice has not yet become an expected component of the consultation between modern doctors and patients.

In the treatment of heart problems and diabetes, consultations tend to focus on investigations or re-assurance. For example, Dr Balakrishnan in the mission hospital treats people with heart problems by asking for an ECG (Rs 15) and prescribing medicines. On ward rounds, he gives patients a re-assuring pat on

the back and tells them they will be fine. He maintains a paternalistic attitude to his patients.

> "Why should you educate the patient – they will get all confused. Do not describe all these diseases and symptomatology - they will only go running to different doctors if they see their feet swelling – I have had such people in my surgery – there is no need to frighten people."

He continues,

> "Now a problem is coming up between the doctor and the patient. It's due to the commericialisation of hospitals. Before the doctor would just do a little investigation and treat the patient. Doctors are now using more investigations to diagnose the disease so the cost is going up. Now if the doctor doesn't use more investigations the patient will not be happy, but the patient doesn't trust the doctor. Now the patient will be angry if something goes wrong. If we are sincere in our work there is no problem. In the private set up the doctor doesn't want to keep the patient."

Conclusion

Risk, uncertainties, choice and a lack of trust are now clouding the lifeworlds of doctors and patients. As the cost of health care increases, doctors have become extremely anxious about treating patients in critical conditions. Patients no longer seem to respect the authority of the doctor and technology has become a way in which to cope with uncertainties. For patients, the perceived moral decline of the medical profession, belief in different doctors, greater health anxieties, chronic health problems and hierarchies in the health care market are encouraging people to further shop around the health care market. However the use of technologies binds people into a more costly system of medicine, the value of which they are unsure about. Technologies have become an important value shaping the movement of patients around the health system. However beyond general comments that modern medicine has lots of tests, luxury technologies are not something people remark about positively, and as noted a limited number of respondents positively commented standards in health care have improved. Educated members of the Muslim community in particular have become suspicious about the necessity of technologies. Patients appear to have a higher demand for re-assurance - that an operation is not necessary, or that they are

well. However people are increasingly attracted to seek treatment from doctors in higher centres, who work by emphasising risk.

Foucault urges an approach to understand how discursive formations govern the relations between power, knowledge and the body, constituting a regime of truth in which power circulates – through localised circuits, tactics, mechanisms and effects through which power becomes diffused and circulates at all levels. The body becomes the centre of struggles between power and knowledge to which techniques of regulation are applied (Thompson 1998:25). In Kerala, techniques of regulation have emerged as power/knowledge has been diffused throughout the health care market, which perpetuates dependence on doctors and the demand for health services, through subtle and more overt control – as people know 'for profit' orientations in medicine has increased; as patients are diagnosed with more illnesses; as new diseases emerge; as the outcome of medical consultations becomes focused on knowledge generation, allowing patients to shop between health care providers. For doctors, the apparent threat of consumer challenges to professional powers has heightened anxieties; as doctors perceive patients no longer trust; as doctors perceive health shopping or questions as a challenge to medical authority doctors. The diffusion of power/knowledge has thus unsettled both doctors and patients, while increasing the demand for medical technologies and health shopping.

While doctors view the fact that patients are shopping around because they do not trust the doctor, high expectations of a cure, belief there might be another better treatment (even for chronic problems), fear of surgery, and the cost of interventions are important factors encouraging people to move between doctors. For some patients, the body has become the site of resistance as people evade fuller biomedical control by 'shopping' from one practitioner to the next to find advice, which is more palatable; or a doctor with good clinical skills to work out the root cause of the problem, and to provide appropriate treatment. In some instances, relative poverty increases resistance to biomedical control, if patients lack the funds to undergo further invasive treatment. In contrast to market discourse which implies competition improves standards in health care, when health problems are not adequately resolved, and when patients continue to shop between providers in search of good treatment, outpatient clinics remain full of patients - with partially investigated, and partially treated problems. While doctors interpret this as indicative of a lack of trust, it in part reflects the extent to which patients are not receiving sufficient care or advice from doctors.

Science and technologies have become new forms of authority, which redefine the role of the doctor to diagnose pathologies. Doctors equipped with the skills to conduct investigative techniques are merely going about the work they have been trained and employed to do, even if the patients of interventional cardiologists, for example, cannot afford to afford corrective treatment. The doctor defines that he has done his job by knowing the exact state of disease and recommending appropriate action. Although doctors assess whether patients have sufficient funds to undergo investigations, and make discriminatory judgements before recommending treatment, the impact of a diagnosis on patients is not considered. The fact that patients have begun to ask more questions of their doctors is interpreted as a lack of trust and a challenge to medical authority, rather than progressive step, reflecting the way in which more patients want to take a more active role to understand their health problem and medical care – particularly as the cost of health care increases.

At the start of the chapter, one doctor described the paediatrician, who was not able to 'utilise his trust.' Here the word trust is used to indicate the doctor was not able to explain to the patient, why he thought it might be a good idea for the baby to stay in hospital for a few extra days. In this sense, the 'lack of trust' reflects the limited communication and understanding developed between doctors and patients. Communication skills are more important than ever as the cost of medicine has increased. At the moment medical decision-making is not transparent and comprehensible to patients. Therefore because patients do not know why a doctor is making a particular decision, patients can interpret medical decision-making to be in the doctor's self-interest, when this is not necessarily the case.

The idea that doctors should explain their decisions to patients is a considerable challenge to traditional conceptualisations of the relationship between the authoritative doctor and the passive patient. Generally it is only middle class patients, who benefit from doctors taking more time to explain their health problem, which appears to be welcomed. The extent of communication is still low, although the situation is improving. For example, the Indian Medical Association has begun to address the problem by providing training in communicative skills. However the type of communication given to patients is important. If doctors use medical language to explain problems, then this is of little value to patients and can merely serve to reinforce the knowledge of the

doctor. If doctors merely inform patients of the cost of a procedure, then this only serves to reinforce the value of the intervention. Therefore 'communication' can also reinforce the power of the doctor over the patient, rather than building better therapeutic relationships between doctors and patients.

Doctors have different resources to sustain the worldview that patients are ready to sue their doctor – the relative decline in their status compared to the authority of the doctor yesteryear; patients asking more questions of their doctors because they want to know more about their health problem; and occasional problems if patients die. When I discussed with family members, two cases of patients who had died following a heart by-pass operation, relatives insisted there was no problem. I met four other families who did not bear any animosity towards hospitals where their relatives had died. The media, the medical profession and occasional problems of attacks or outbursts are important factors increasing the idea that doctors have to take great risks to treat patients. Doctors feel more anxious because they are taking more money from patients for treatment, that discourses of lay challenges assist in justifying the need for the use of technologies.

Although the medical profession have suffered a relative decline in status, for many doctors this has been welcomed, because they are treated more like ordinary people, going about a job, rather than 'demi-gods.' For both doctors and patients a new space has been opened up in hospitals, as a more service-oriented culture is developing, and patients are treated with more respect. Some doctors welcome patients asking questions, compared to older professionals who are used to uncritical acceptance of their authority. A considerable amount of goodwill exists between doctors and patients, and younger doctors in particular are prepared to talk to patients, rather than adopting an authoritative or paternalistic attitude, and many patients have higher levels of education, information and expectations of doctors to explain their condition. Although greater access to information has caused new anxieties, it has also empowered some patients to ask more questions of their doctor. Therefore it is important to understand why mistrust has grown, and how trust is growing as doctors spend more time talking to patients. The final chapter brings together analysis of the social processes shaping the development of the knowledge economy and the commodification of health care.

Chapter 8:
Conclusion: The Commodification of Health Care

The provision of health services is one of the most successful and one of the most controversial industries to have emerged in India as a result of policies of economic liberalisation. By exploring medical knowledge as a form of social power, and by tracing the development of the knowledge economy as an historical process, the thesis has illustrated how the diffusion and withholding of medical knowledge has facilitated the commodification of health care, as symbols communicate power and authority across information asymmetries; and as elite doctors have maintained social power and prestige as role models for other sections of society. The thesis has illustrated the power of doctors in mediating local engagements with modernity, and in perpetuating dependence on doctors as medical experts, which has served to reinforce the power and authoritative status of doctors.

Under colonialism and state socialism, the thesis has shown how access to modern medical knowledge and technologies was limited to a small number of elite doctors, highly distinguished from the rest of society. Health care consumption was restricted by the limited number of doctors, facilities and the income of patients; and with the exception of a few doctors educated in private institutions outside Kerala, access to medical education was limited to those succeeding on the basis of merit or reservations in the government sector. In exploring the transition from state socialism to fully-fledged capitalism, the thesis has demonstrated the role of the wealthy elites and the aspirations of the middle classes in transforming the medical profession into the most important area for investment and the accumulation of capital in the new economy. The thesis has illustrated the role of medical technologies and higher qualifications in facilitating accumulation from investment in the health care economy. Chapter 4 demonstrated how the marketised context of health service provision has accentuated inequalities within the medical profession as family wealth or heritage in medicine becomes important in establishing a successful career for young doctors. It illustrated how the formal and informal demand for medical technologies has increased, as the relative status and income of doctors has generally declined relative to Gulf migrants, nurses and the growth of the wider middle classes.

Chapters 5 and 6 illustrated how technologies and ideas of luxury have been promoted by the health care industry. However Chapter 7 illustrated how the expertise of doctors remains as the most important value in medicine, shaping health care seeking behaviour, and as a focus for critique of transformations in medicine. The chapter demonstrated how technologies have been accepted as progress in medicine in the hands of trusted local doctors, who have mediated lay engagements with super-speciality medicine. It also illustrated how information and medical technologies have created a self-perpetuating dynamic, increasing the demand for health services as technologies and super-speciality medicine maintain hierarchies, differences and uncertainties in medicine. The thesis has shown how differences in medicine are interpreted in economic terms within a patient financed health system. It has demonstrated how the marketised context of health service provision has diffused medical power/knowledge across the marketplace. However, the thesis has illustrated how this has created new forms of medicalisation, sustaining dependency on doctors and the demand for health services. The thesis has illustrated that although medical dominance has been minimally challenged by patients, this has further perpetuated the demand of doctors for technologies – as doctors practice 'defensive medicine'; and how the use of technologies has sustained the demand of patients for health services, as patients shop between different providers in search of 'good' health care.

Proponents of markets in health care argue market competition improves efficiency; leads to an optimal allocation of resources; increases standards of health care; reduces the cost of health care; provides information and incentives to act on information; and promotes freedom of association and autonomy (Johnson 1995). This thesis has illustrated how efficiency in health care has improved as technologies provide a low risk, high turn around area for investment. It has shown how the market context of health care has led to the over-provision and dependence on super-specialist doctors leading to the over-medicalisation of simple problems. The thesis has demonstrated how standards in health care have improved, but how standards are minimally being defined by technologies and higher medical expertise. This has further increased the cost of health care as the market context of service provision necessitates hospitals and doctors to up-grade skills and services, in order to compete on the basis of abstract values which communicate higher standards of health care to patients.

Chapter 7 demonstrated how the market context of health care provision is not necessarily conducive to improve standards in resolving health problems, as

patients move around between providers with half investigated and half treated health problems. The thesis has demonstrated the market is a highly efficient mechanism in producing information and providing incentives to act upon it, but this is not assisting the development of therapeutic relationships of lasting value between doctors and patients, which assist patients in coping with ill-health. Markets are defended in moral terms by promoting freedom and autonomy. Markets are fulfilling the desires of the middle classes and wealthy elites to accumulate capital and achieve social mobility by virtue of becoming a doctor – how this is transforming the values of the health service provision away from the needs of patients to access affordable health care, which improves health.

In the provision of health services consumer choice has increased doubts and uncertainties about the ability and ethics of different doctors and hospitals. Rather than promoting autonomy, this has led to new anxieties about the veracity of consumer choice in selecting the best care, and the seriousness of health problems. Enduring information asymmetries between doctors and patients, and lay challenges have sustained the demand for technologies and health services. This has supported the collective interests of the health care industry – in perpetuating the demand for health services, and dependency on the expert services of doctors. Hierarchies, differences and uncertainties in medicine have therefore maintained the demand for health services and the flow of patients around the health system, without obvious benefits for patient health.

The Dynamics of Marketisation

The lifting of restrictions previously placed by the government on the expansion of medical education, the importation of technologies, and the activities of private industry more generally, appears to have unleashed an energy, drive and ambition to meet previously unfulfilled desires through the marketplace, and to imagine new frontiers in the provision of health services. However, by examining the development of the knowledge economy as an historical process, the thesis has demonstrated how the marketisation of health services has been a cumulative process, gathering speed, since the first business families diversified into health care in the 1970s. In Kerala, the impact of successive market reforms has been magnified by accumulation from Gulf migration – facilitating higher levels of consumer expenditure on health care; in raising the ambitions and possibilities of the new rich and the wider middle classes to achieve social mobility by acquiring the symbolic capital of being a doctor; and in financing the local corporate hospital.

As Chapter 5 and Chapter 6 illustrated, the gradual expansion of services and the more rapid diffusion of 'luxury' technologies has reflected the importance of the social in shaping economic practices, as hospitals and investors copy or improve upon the practices of competitors in order to maintain or enhance market share. The thesis has shown how entrepreneurship and investment have gradually emerged as normative values in the context of an increasingly competitive marketplace, as patients are drawn to doctors and hospitals with better technologies and more qualified doctors; and as societal expectations of being a doctor extend to the norm of having post-graduate qualifications. Within a consumer-driven market, the thesis has shown how it is more difficult for doctors and hospitals to maintain patient share, without up-grading services, technologies or qualifications, as abstract values come to define higher standards. Thus the values of the market place – of investment, entrepreneurship and risk have gradually taken hold, as actors in the economy respond to and gradually come to adopt and accept the dominant values and attitudes of others leading expansion, as these values are gradually accepted by wider society.

Hospitals, costs and the local and global imagination

While new hospitals and clinics market international standards and technologies to local consumers, enduring discourses of charity and social service to the 'common man' illustrate the ways in which hospitals remain rooted in local communities and values. While processes of commodification have transformed the hospital into a closer relative of the hotel and diagnostic technologies have increased productivity, efficiency and revenue from the provision of health services, superficial embellishments to the health care environment and the standardised usage of technologies have both attracted consumers and heightened scepticism about the profit motives of the industry, as inappropriate for the delivery of an essential service in a relatively poor country. While hospitals envisage and plan for the arrival of medical tourists, local reactions to expansion are treated with cynicism as illustration of the profit motivations of the industry, rather than inspiring confidence in higher standards of health care in India.

Although high tech set ups have transformed the imagination of India materially, the rising cost of health care reinforces the position of India as a developing country, where the majority struggle to afford potential benefits of advances in medical science. Leading industrialists thus have to engage with local dissent about treating health care as a commodity, as business, profit, international

standards, charity, social service and altruism uncomfortably converge in public discourse. Thus although the industry is dependent on global technologies, Chapter 5 illustrated how hospitals are important institutions in local lifeworlds, where ideas and practices are shaped at the intersection between local consumer values and the developmental imagination of local entrepreneurs.

The health care market has introduced new values for consumers – of luxury rooms, symbolic technologies and posh interiors. As many people in Kerala do not have the opportunity to stay outside their houses, hospitals have become popular as legitimate spaces to stay outside home, like a hotel - as a place where some families of Gulf migrants want to get admitted to receive care and attention from relatives. Chapter 5 demonstrated how middle class consumers interpret the embellishments of the new corporate as indicative of commercialisation, which stretches the credibility of the institution as a service provider working in the interests of the common man. By comparison, the hospital with more modest interiors and retired heads of department from medical college is more popular. Despite the fact that charges are similar between the two institutions, it is seen as 'local', because the doctors are widely known to the local population.

Despite modernist trappings and the overt fashioning of health care as a commodity, the value of the good local doctors remains the principle defining standards in health care. Across all communities and classes, lower middle class patients in particular retain belief in government doctors, who have seen the most local patients. Thus the most successful model for private health care relies on patient trust established by doctors who have worked in the public sector. At the same time, more educated members of the middle class are beginning to recognise the scientific authority and higher standards of the new corporate hospital. Trust and wider appreciation of this institution is gradually increasing. In a state with a strong culture of resistance to and suspicion of 'globalisation' (Osella 2007) 'International standards in health care' delivered by 'NRIs' are immediately treated with more suspicion, increasing perceptions the hospital is there to exploit rather than to provide a necessary service. This feeling is particularly strong amongst the Muslim community, who expect local entrepreneurs to act with benevolence and charity towards the local community.

Critics argue the desires revealed by market behaviour to a large extent are induced by the producers of goods and services themselves, who have an obvious interest in stimulating demand for their products (Miller 1989:39, Navarro 1976).

They argue commodification has transformed the provision of health care into a list of product and services marketed to consumers (Pellegrino 1999, Stoeckle 2000, Peppin 1999, Loomes 1992, Enthoven 1980, Callahan and Wasunna 2006, Wildes 1999). The thesis has illustrated how the marketised context of health service provision is fulfilling consumer demands for access to more qualified doctors and specialist technologies. The example of the charitable hospital in Chapter 6 and popular support for the new government super-speciality block in Chapter 4, further demonstrate how the value of high tech health care is redefining ideas of charity and social service - as a 'social good' to which all sections of society should have access. Although most hospitals use signboards to advertise technologies, people do not talk about the technologies at an institution, but the doctors working across different institutions. Processes of social intermediation have been important in facilitating the wider acceptance of technologies as the fame of the local doctors overrides consideration of the technological set up provided by institutions. However this has limited wider awareness of the type of medicine practiced by particular doctors, or wider knowledge of the standards of infrastructure or care available at an institution. Technologies have become abstract symbols defining higher standards, which have become necessary embellishments for hospitals to maintain patients, and as more doctors demand information, but for patients, doctors remain as the most important value guiding health seeking behaviour.

Chapters 2 and Chapter 5 have shown the extent to which doctors accept health care as a commodity varies between extremes - from those who keep abreast of the latest developments of industry news in the corporate sector and work to expand market share, to those who dutifully treat long lines of patients for a modest salary. Every doctor in his/her own way provides a professional duty of care for patients. The thesis has demonstrated the value of the provision of health care, as a moral good, regardless of the social context of provision, and how the definition of a professional duty of care is largely defined by the social context in which medicine is practiced. However within these different social contexts the extent to which doctors make discriminatory judgements varies on a case by case basis. At the same time, the thesis has shown that as doctors invest more time and money to become specialists, and the salary ambitions of the medical profession increase alongside the number of practicing doctors, the profit and technological orientations of the industry and the medical profession continue to intensify. Meanwhile inequalities in service provision endure, and the income and social commitment of doctors varies.

Patients idealise the relationship between doctors and patients in kinship terms (Marriott 1955). However doctors financially dependent on parents and dowry are expected to fulfil familial expectations to become a successful wealthy doctor, which also confirms to wider society, the doctor has good knowledge. The thesis has illustrated how society places competing expectations on doctors – to become a rich, successful consultant with prestige, and to act in social service. Thus while people idealise the values of charity and social service in medicine, those who can afford to prefer to consult prestigious doctors, who they assume to be better doctors because they have grown wealthy as a result of seeing many patients.

Although standards in health care have considerably improved, this has come at a considerable cost, as charges are dis-embedded from local salary considerations - an inevitable paradox of high tech health care in a relatively low-income context, where no collective means of payment have been established to insure people against the unexpected burden of medical care. Hospitals have become committed to the values of universal science and doctor's perspectives on the world have become more oriented towards these professional values to the detriment of an approach to medicine, which considers the expense of medical treatment relative to actual income levels. While the influx of Gulf money and ostentatious consumption, such as the building of large houses has perpetuated a view that patients are wealthy, significant inequalities of income exist between different households, which are not readily discernable by doctors. Highly skilled doctors still feel constrained by a situation in which the tools of global science are now available to them, but local patients don't understand the cost, complexity or necessity of treatments; or how to navigate effectively between self-selected specialists. As more local patients can afford more expensive medicines and technologies, doctors have shifted from a principle of economism in order to maximise the quality care, defined in technological inputs. However, because the expense of medicines, and bills is not extensively discussed with patients, this services to undermine the social legitimacy of doctors, if decisions are interpreted by patients in economic terms.

The Medical and Economic Values of Technologies

Health care systems have become key sites through which to document the ways in which local and global inequalities and imaginings are reinforced, articulated and re-made through the institution of medicine. As Ferguson (2006:19) points out, the question of cultural difference is everywhere tightly bound up with questions of inequality, aspiration and rank in an imagined "world." He argues

that while a well-intentioned anthropology has tried to treat cultural difference within a relativistic framework by approaching the study of cultural difference in terms of equivalence, "real" cultural differences take on meaning within contexts characterised by sharp social and economic inequalities.

These insights are important to understand the popularisation of 'super-speciality' medicine and the reasons why people choose to consult a neurologist or agree to undergo a CT scan in the case of a headache. It draws attention to the different meanings, imaginings and perceptions of inequalities, framing understandings of objects and ideas as they move from the global north to south. Although western technologies speak volumes of the power and spectacle of modern science and invoke imaginings of the health care system of a developed other, global technologies and medical practices are important articulations, serving to reinforce inequalities of rank within a global and local order of people and things, further exacerbated within a system of medicine based on private out-of-pocket expenditure.

For most Indian doctors, technologies and super-speciality medicine represent scientific progress and the possibilities for better treatment, which hitherto have had a limited social value in the Indian context due to the relative poverty of local patients, limited infrastructure and expertise. Economic reforms and changes to the size, composition and income of the middle classes have increased the availability of technologies, and the extent to which advances in medicine can be used to improve and/or extend life. However the need for advanced services applies to a limited number of seriously ill patients, who can afford or can borrow funds, for more sophisticated surgical techniques, expensive medications or hospital based care. Considerable inequalities of income still restrict the possibilities of providing high tech health care to meet the under-served health care needs of economically disadvantaged patients. Therefore despite the ambitious plans of hospitals to expand highly specialist forms of care, a limited number of patients can afford or require technically sophisticated medical interventions.

A further restriction is at work because specialist services, such as organ transplants, reconstructive surgery or life-support machines have limited commodity potential, as the need for such services is restricted according to the number of seriously ill patients. Although marketisation has increased the provision of advanced care, the prohibitive cost associated with treatment limits

the extent to which increased capacity can cater to the needs of the seriously ill. Given the restricted value of these services to the majority of patients and the rapid expansion of infrastructure, this has lead to the over-medicalisation of simple health problems, such as headaches, anxieties about post-natal jaundice, or new born babies feeding properly after delivery.

In a context where the majority of patients are paying out-of-pocket for health services, the distribution and consumption of health services articulates not only a medical value, but also an economic value because the extent of health care interventions is often determined by the financial situation of patients. Thus the use or restricted usage of technologies is readily understood in economic terms, whereby more expensive technologies indicate higher standards in health care rather than the appropriateness of a response, according to the seriousness of a medical problem. In the local health care market, scientific progress has facilitated improvements to service provision and brought new services to market. However, this has accompanied new forms of commercialisation, as investment in technologies becomes an important way in which to increase income from medical practice, the provision of services and to maintain market share. Given the limited demand for highly specialist care, diagnostic technologies have played a central role in popularising high tech health care. As Chapter 6 illustrated, technologies can have amorphous applications to rule out possible pathologies in well patients, without causing significant risk of harm. Thus within a relatively low income context where patients are paying for services, the provision of high tech care has become the popularisation of high tech diagnostics.

In a context where the supply and distribution of health care services is organised around hierarchies of rank between different institutions and the ability of patients to pay for services, the consumption of health services acquires different meanings for doctors and patients, between imaginings of international standards, the restrictions of local income levels, demands for 'higher standards' through the use of visual technologies; and fear of litigation as doctors take more 'risk' to treat patients. As patients and many members of the medical community continue to view India as a developing country, dependent on the scientific tools and knowledge developed in the global north, this dynamic of inequality further reinforces the economic and symbolic value of technologies. Thus the increased availability of technologies and the cost of technologies of 'advanced countries' are essential ways in which the value of these technologies and super-speciality

medicine are reproduced, as patients pay considerable amounts for services relative to local income levels.

In a patient financed health system, medical care is primarily distributed on the basis of the ability of patients to pay for health care, rather than medicine being organised in terms of hierarchies of the appropriateness of an intervention relative to the seriousness of a medical problem. Thus the consumption of high tech health care is frequently not an articulation of the seriousness of a health problem but an articulation of the income of consumers, and lay perceptions that doctors with more qualifications have better knowledge to treat any health problem. As the cost of health services, qualifications and technologies are interpreted by consumers to reflect the quality of services provided, more expensive techniques or higher fees are interpreted as representing higher standards in health care. This dynamic has lead to higher demand and greater acceptance of high tech services, such as CT scans, the use of incubators, or Intensive Care because their usage is understood in economic terms, indicating higher standards.

The meaning of medical objects becomes overlain with economic values, and the consumption of services an indication of rank, whereby more costly services and technologies indicate better care. The popularity of super-speciality medicine reflects a system of stratification, in which "high tech" compared to "low tech" health care, articulates the assumed quality and value of the services provided, the greater expertise of the doctor and the income of patients, rather than an articulation of the seriousness of a health problem. A consultation with a neurologist or a CT scan for a headache can thus be interpreted by patients to represent higher standards in health care, which can be applied to any health problem, according to the income of patients. However, this interpretation is based on high levels of trust in doctors, that they are providing a professional duty of care. This differs considerably from a system of medicine in which people are filtered to appropriate service providers, according to the ranking of health problems, whereby differentials between "high" and "low" reflect a hierarchy of medical need from trivial to more serious life-threatening conditions, and the necessity of specialist knowledge for the treatment of a particular health problem. The demand for specialist services can also be interpreted as an articulation of lay concerns, that doctors with fewer qualifications are not as competent compared to urban specialists.

The global and local dynamics of inequalities, the norm of becoming a specialist doctor, the local context of a competitive marketplace, and consumer choice have perpetuated the over-development and acceptance of 'super-speciality' medicine, as indicators of higher standards. Conversely, for consumers, sceptical about the commercialisation of medicine, the use of technologies is evaluated in economic terms whereby doubts are raised about the ethical use of technologies. However, criticism does not reflect an appreciation of the changing professional values of 'super-specialist doctors, who are trained to use their specialist knowledge and technical skills to work with technologies, even if patients are consulting highly qualified doctors with more trivial health problems. Super-speciality doctors also express frustration that their skills and knowledge are being under-utilised within a health system in which patients are free to choose between different doctors.

Although there are obvious corruptions in the overuse of technologies, as a fast and efficient way to increase revenue from medical practice, appropriate standards in health care are changing, as imaging technologies become accepted values in medical practice. Thus the definition of a professional duty of care is being transformed as younger generations of doctors demand greater evidence and certainty in medicine rather than minimising the cost of health care to the patient. As health care is being transformed from a social good into a knowledge economy, greater knowledge in health care has become a value to assist doctors in their medical work. For those working with diagnostic technologies, patient health problems have become objectified, as doctors use technologies available to carry out their professional duty as specialists and employees of hospitals. However the diagnosis of patients is occurring without due consideration of the ethical consequences of investigative medicine on the patients whom they are treating – for example, in the case of angiograms, if patients lack to the funds to undergo further invasive treatment.

Although technologies have become important values for hospitals and doctors, the extent to which patients fetishise technologies as 'modern health care' appears limited. While doctors argue that technologies such as CT scans have somehow 'captured the public imagination', I found little evidence of patient demand or fascination with technologies. Patients have health problems and generally trust doctors will use technologies appropriately to check their health. While CT scans have become symbols of modern institutions, with greater medical expertise, in patient lifeworlds, rather than willingly acceptance of technologies as progress, patients trust doctors to advise the appropriate use of

technologies. Within a patient financed health system the use of technologies raises economic and medical doubts for patients - is a test necessary? Should the patient go to a higher centre because the technology is not available? Is the doctor not prescribing a test because he thinks the patient cannot afford? Is the doctor advising tests because he is making money? Technologies have thus kept patients moving around the health system, creating hierarchies, differences, uncertainties and ambiguities, as the use and non-use of technologies raises concerns.

Unlike the transformative powers of pharmaceuticals as objects previously highlighted as perpetuating medicalisation (e.g. Nichter 1996), I found little evidence to suggest patients experienced embodied health benefits as a result of scanning procedures. While pharmaceuticals make patients feel better, (almost instantly in the case of painkillers), people remain sceptical about the value of technologies. Technologies have become central agents driving processes of marketisation and medicalisation - uncovering hidden pathologies, diagnosing ill-health, and labelling more patients with health problems and diseases. While science and technologies raise expectations of faster more effective, more powerful health care, at the same time, the debilitating effects of chronic illness is leading to a greater sense of dis-ease, as more are diagnosed as sick.

Tensions reflect the fact that as medical practice has been transformed by a moral economy of science and technology, the ideal of curative medicine has been reduced to the management of chronic illness and the diagnosis of more complex health problems - the severity or importance of which are not commonly understood by many patients. Doctors often raise concerns about patient health for good reason, as poorly controlled diabetes and heart disease become major health problems. However these conditions are poorly understood by patients as chronic conditions, which generally become of concern when patients are experiencing symptoms. Thus doctors and patients are both adjusting to a different style of medical practice and chronic ill health, which have decreased levels of professional and patient satisfaction (Lloyd-Williams and Dogra 2004). Furthermore doctors are less sympathetic towards patients, whose dietary habits are contributing to poor health, while patients have become more disillusioned with doctors as a result of poor health. Thus the previous moral economy of gratitude given to doctors by grateful patients has been reduced to the management of chronic ill-health.

From Technologies and Efficiency to Communication and Trust

In Kerala, the relationship between doctors and patients is changing as the use of diagnostic tests, scans and knowledge about disease is increasingly produced through technologies, rather than the clinical skills of the doctor. Chapter 6 illustrated how the use of technologies has transformed medical care into a process, thereby distancing the lifeworld between doctors and patients. In this way health care is being objectified as the production and analysis of medical records become the focus of consultations, rather than the physical examination, clinical history taking and treatment. Objectification is occurring as the delivery of health care is being transformed from a one stop shop in the clinic, of checking and dispensing medicines, into a process of screening the body, generating information, and using scientific knowledge before treatment. In this sense the relationship between the doctor and patient has become objectified, as information, medical records and test results become integral to the delivery of health care, and as patients move between different doctors.

As technologies have been integrated into the everyday workings of hospitals and diffused throughout the informal marketplace, the use of technologies varies across the health care system. Thus the boundaries between the ethical and unethical use of technologies has become extremely difficult to discern, as hospitals and doctors integrate visual technologies into everyday medical practice, while other doctors use technologies for medical and economic purposes. Chapter 7 illustrated how lay challenges to medical dominance – by asking questions of doctors and by moving between different health service providers with medical records has helped to sustain the worldview of the medical profession, that patients are ready to sue their doctors at the slight chance of negligence. This discourse that the relationship between doctors and patients has been commodified, and regulated by the rule of tort has been used by doctors to sustain the world view that the use of technologies has become necessary, as a form of 'defensive medicine.'

While many doctors believe that patients no longer trust doctors, the chapter illustrated how patients maintain high levels of trust in doctors. It showed how within a marketised health system, in which doctors have withheld medical knowledge from patients, rather than educating patients about modern medicine - the behaviour of patients shopping around for health care; the questioning of doctors about health problems; and the decisions of doctors about appropriate treatment can be interpreted in economic terms as illustrative of low levels of trust; and to justify doctors acting with regard to his/her own interest by

demanding more information. It showed that rather than a conflict situation emerging, a more educated patient population are seeking to know more about their health care, particularly given the high cost of modern treatments, and how trust is being rebuilt as more doctors communicate with patients.

Within a patient financed health system the thesis has shown how differences in medicine and behaviours can be interpreted by doctors and patients in economic terms. However, if greater levels of communication were to develop between doctors and patients, so 'that doctors could utilise their trust' then patients could better understand and make informed choices about the potential benefits and draw backs of undergoing recommended procedures. However, this requires a substantive transformation to the current model of medical dominance, in which doctors maintain authority over the patient, as guardians of esoteric knowledge (Quah 1989). The marketised context of service provision and the growth of an educated middle class has provoked transitions from a more authoritarian or paternalistic attitude of doctors - to a more service-oriented style of medical practice. This has been welcomed by younger doctors who reject local framings of the doctor as 'demi-god.'

As a result doctors are gradually lowering their expectations that patients will unquestioningly submit their bodies to medical authority, given at the very least the necessity to negotiate the costs of more expensive procedures. The attitude that patient health is 'really none of their concern' (Kutty 2006:303) is changing with the times on the part of doctors and patients who are more interested in knowing about their care. The core of medical practice in India has been the checking and dispensing of medicines, in response to patient demands and large volumes. However middle class patients have a higher expectation of care, are more likely to expect 'counselling.' Accordingly, the speed of medical consultations is gradually slowing as patients are being given appointment times and ten minute consultations in the corporate hospital. Medical consultations are becoming more egalitarian in new private hospitals, as doctors no longer talk down to patients from lower and middle class backgrounds, making eye contact, showing care by taking a personal interest in family members, or explaining more about chronic diseases such as Type II diabetes. However transformations are at an embryonic stage. Patients still generally expect doctors to be able to care for their health. High prevalence rates for heart disease and diabetes have not yet produced a significant change in attitudes, whereby doctors challenge patients to take more responsibility for their own health, beyond taking the medicines

doctors have prescribed. Thus doctors also need to adjust to encourage patients to play a more active role in their own health care.

Doctors remain critical of patients for their belief in different doctors and the fact that patients will shop between doctors. However, this reflects the limited extent to which doctors have made a more biomedical view of the world comprehensible and accessible to patients. As Chapter 3 illustrated, doctors have acted as intellectuals and moral reformers instilling the modern values of education and seeking treatment from a doctor. However doctors have remained dominant, instilling a culture of medical dependency, rather than facilitating broader understandings and the translation of modern medicine into local lifeworlds. Although this has reflected the speed of consultations and the personal gratification doctors have taken and received in curing patients, by taking more interest in patients and helping them to understand modern medicine, doctors could increase personal satisfaction, maintain more regular patients by engaging in face work, rather than maximising returns by sending patients for scanning, with the assumption that consumption will be a one off event. Given that both doctors and patients appear to value more long-term relationships, communication can and is improving the relationship between doctors and patients. Thus in contrast to critical discourses regarding the deteriorating state of relationships between doctors and patients (Kutty 2006), discourses of conflict and lay challenges should be understood as a first step towards better communication.

Conclusion

It was suggested in the introduction that the health commodification refers to the emerging gap between health care as a 'social good', which includes protecting and improving health and the provision of professional, ethical, accountable and accessible health care (Mackintosh and Koivusalo 2005:3); and the marketisation of health services as the dynamic processes shaping the provision and consumption of health care. The thesis has illustrated how the marketised context of health service provision is fulfilling consumer demands for access to more qualified doctors and specialist technologies. Hospitals and doctors are generally responding to consumer demands by using abstract symbols which can readily be interpreted by patients to denote higher standards. For hospitals and doctors to exhibit a more comprehensive definition of a professional duty of care, actors should reflect upon the ways in which the provision of health services could better address patient needs for health services, affordable health care, through the provision of services, which contributes to the patient well-being and the improvement of health.

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Appendix 1: List of Institutitons Visited/ Interviews about Institutions

Government Sector

- Four government primary health centres (two in rural Travancore and two in Malabar – accompanied by government employees. Interviews with two doctors practicing in rural PHC.
- Interviews with three district medical officers (two in rural Malabar, one in rural Travancore)
- One community health centre (rural Travancore)
- Three district hospitals (rural Malabar) – accompanied by government employee from district medical office.
- Interview with the two principles of the local Medical College (three visits)
- Interviews with two doctors working in community medicine (local medical college – three visits)
- One doctor (general medicine – two interviews)
- One doctor (pathology department and social researcher – three interviews)
- Head of Department of Cardiology
- Head of Department of Gynaecology (including five days of observation in gynaecology department).

Topics covered: structure of government health services; regional health problems; types of services provided by the institution – technologies, doctors and supplies; profile of patients coming to centre; resources and staffing issues; any recent changes to the institution; relationship of the institution to local government; private practice and ambitions of government doctors; impact of reforms on government sector; corruption in private sector.

Private sector

- Owners of six super-speciality hospitals (two in rural areas, one in Cochin).
- Managers of eight super-speciality hospitals (one co-operative sector medical college; two mission hospitals; one corporate hospital; and four other super-speciality hospitals).
- Interviews with the managers of the twenty other institutions in modern medicine – (N.B. most interviews in small centres conducted by research assistant) – ten small private nursing homes, three specialist eye hospitals;

one TB hospital and diabetes centre; three maternity homes; one co-operative hospital; one mission hospital; three small private rural hospitals.

- Interviews with doctors who have established specialist clinics – in dermatology; Ear Nose and Throat; diabetes care; one large diagnostic laboratory; two scanning centres (see below); infertility clinic.

Topics covered: growth of health care and 'super-speciality medicine' in the area; history of the institution; background of the owner; services provided by the institution; number of beds; technologies and specialist departments; future development plans; catchment area of the hospital and patient profile; common health problems treated; special features of the institution; marketing and referrals; out-patient and room charges; relationship between the institution and the doctors; medical tourism and accreditation schemes (where appropriate).

- Interviews with six public relation's officers in private hospitals:

Topics covered: background of institution; specialist departments; health consumerism/ patient profile using institution; personal daily work activities and background; marketing activities of institution and health camps; tour of institution (if applicable); medical tourism (if relevant); hospital accreditation (if relevant).

- *Interviews with the owners of scanning centres and doctors working with CT, MRI and ultrasound (see also footnote 159)*

Topics Covered: career and family background; reasons for investing in scanning business; management of scanning centre and referrals; reasons for awareness of scanning in Kerala; purchase of machines and functionality; commercialisation of scanning business; value of imaging techniques versus clinical medicine; types of cases seen; differences between health system in UK and Kerala; history of radiology in city and Kerala.

Appendix 2: Record of Interviews with Doctors

List of doctors whose practices were observed:

- General medicine – one general clinician in mission hospital; three doctors in private super-speciality hospitals (two ex-medical college doctors and one MD).
- Urology – two doctors in small gynaecology and urology centre.
- Wellness clinic (private hospital)
- Outpatient clinic of two cardiologists (corporate hospital).
- Observation in Cath laboratory and Cardio-thorasic unit
- Observation of lifestyle modification programme.
- One chest specialist (trips to rural hospitals).
- One interventional foetal medicine specialist (scanning procedures)
- One radiologist (private standalone clinic – working with CT scans)
- Two general doctors, specialising in ultrasound scanning (one in a concession in a private hospital, one in a private scanning clinic).
- One radiologist (specialist unit in a private hospital working with CT and ultrasound)
- Two neuorologists (one in a mission hospital and one working in private clinics in rural areas).
- Two gynaecologists (one in government medical college and one private hospital).
- One nattu vaidyan (traditional healer)
- One āyurvedic doctor
- One homeo doctor

Specialist interviews with particular groups of doctors

- Informal interviews/ participant observation with ten third year medical students from the local Government Medical College (male/ female), five of whom I had contact with over the course of the research.
  Attendance of conference on medical ethics with medical students
  Questionnaire survey following a lecture with one hundred students – on the private/ public health system.

Specialist topics discussed – reasons for entering medicine; medicine versus engineering; entrance system and exams; the medical curriculum and rotations; experiences and initial impression of the medical profession from the inside; family background, marriage and dowry; meaning of becoming a doctor to their

family; state of facilities and exposure to patients at medical college; ragging (initiation rites/ bullying); hierarchies between different years and social groups amongst medical students; use of internet, ipods, mobile phones; exposure to diagnostic technologies; clinical medicine; medical ethics.

- Informal Interviews with ten junior doctors working informally or studying for post-graduate qualifications (male and female) – four key respondents who I maintained friendships with throughout the research

Specialist topics discussed - reasons for studying medicine; medicine versus engineering; life as a medical student; family background, marriage and dowry; career history since leaving medical college; post-graduate specialisms and entrance exams and coaching; work as a casualty doctor in rural hospitals; work as an assistant; entrance exams; migration to Gulf/UK/ Maldives; CT scanning and referrals; medical ethics.

- Interviews with six elderly doctors (general medicine and surgery – ex-government medical college and private sector).

Specialist topics discussed – history of health care in the area; growth of private hospitals; family background and migration to the area; reasons for choosing medicine; changes to government medical college; career history and migration to UK; changes to patient profile and medical practice over the last forty years.

- Interviews with two diabetologists

Specialist topics discussed – reasons for high prevalence of Type II diabetes; complications associated with diabetes; history of specialist treatment centre; problems of treating diabetic patients and strategies for managing diabetes.

- Interview with six radiologists and three radiology technicians (three practices observed)

Specialist topics discussed – history of radiology in Kerala; reasons for choosing radiology; training and experience in radiology; use of ultrasound, CT, MRI advantages; referral systems to institutions; marketing of CT and MRI in media; commercialisation of scanning business; clinical medicine and evidence based medicine.

- Interviews with five female gynaecologists

Specialist topics discussed – routine check ups in gynaecology; private patients and hospital deliveries; medicines prescribed during pregnancy and aftercare; number of scans recommended during pregnancy; episiotomy; indications for caesarean deliveries; working routine as gynaecologist.

Other interviews with doctors/ experts

- Two psychiatrists; three dermatologists; two ENT specialists; six cardiologists; four technicians working with CT scanners; the owners of two small diagnostic clinics conducting x-ray, ECGs and blood tests; the owner and the manager of one large laboratory; two pathologists; three homeopathic doctors; four āyurvedic doctors; one naturopathy doctor; paediatric cardiologist; two unnani doctors; three nattu vaidyans (traditional healers); five journalists reporting on health matters; one lawyer involved in medical litigation cases; two insurance brokers; three members of the Indian Medical Association; four doctors working in hospitals in rural areas; two surgeons; informal discussions with many other doctors at social/ medical events – Continuing Medical Education Programmes; Rotary and Lions Club events; Indian Medical Association events and annual conference.

General topics for discussion with doctors:
Why did you decide to become a doctor?
Where did you study?
What was your father's occupation?
Why did you decide to specialise in XXXX?
What interests you about that specialism?
What type of patients and health problems do you treat?
How did you come to work in hospital x?
How long have you worked at this hospital?
Do you practice medicine privately?
How has Gulf migration affected the health system?
What are the most popular specialisms in medicine? Why?
Do you have regular patients?
Why are patients concerned so concerned about their health?
Why do patients shop for health care?
Are scanning technologies useful to your practice?

What is your relationship to the hospital?

What are some of the problems you encounter working as a doctor?

Are you involved with the Indian Medical Association?

How has the doctor-patient relationship changed in recent years?

Illustrative sample of issues discussed with different doctors.

Respondent details	**Age**	**Place of work**	**Topics discussed**
General clinician (practice observed)	50s	Wellness clinic (Corporate hospital)	Types of patients visiting the centre; range of services and tests provided at the centre; benefits of health check-ups; heart disease and referrals to the centre; Gulf migration; health awareness; patient management of diabetes and heart disease.
MBBS doctor	20s	Mission/ periphery hospital	Career opportunities in government services and post-graduate exams; diabetes and heart disease; work in rural hospital; work shadowing senior doctors; charity in medicine; the doctor patient relationship; problems with lay understandings of high tech medicine; problems of ayurvedic and homeopathic medicine; marriage to a doctor; relationship with nurses; relationship to senior consultant; technologies and medical education; referrals from periphery hospitals.
Ayurvedic doctor	40s	Owner of clinic	Health consciousness of patients; hereditary training; use of modern ayurvedic medicines; specificity of ayurvedic treatments; arthritis treatment and modern medicine; English medicine and symptomatic treatment; lack of surgery in ayurveda; use of MRI scans for inflammation and technology transfer straight from US to India; problems of government service and basic access to health care; pregnancy and medicines and his new centre; addiction of people to English medicines; use of English medicines in practice.

Psychiatrist	30s	Government sector	Health programmes and magazines; function of media in increasing awareness; health consciousness of people; medical education; consumer protection act; problems of government sector; psychiatry; family system of medicine; decline in trust between doctors and patients.
Psychiatrist (F)	40s	Super-speciality hospital	Female health problems; somatisation of physical complaints; stigma and mental health; women's psychological problems; illness and family life; career choice; relationship to other specialisms; gender relations; problems of communication in doctor patient relationship.
Cardiology department assistant doctor (F)	20s	Super-speciality hospital	Being a doctor; specialisation and marriage; post-graduate exams; career ambitions; cardiac care and well-being programme.
Paediatric Cardiologist (surgeon)	50s	Corporate hospital	Expansion of private health care industry; cost of high tech system in low income context – debt and limited operations compared to need; charitable work of institution; poor prevention and deteriorating state of health in Kerala; unnecessary scans.
Heart surgeon	40s	Corporate hospital	Growth of private health care industry in Kerala; family background; career history; relationship to institution; expansion plans of hospital; medical tourism; set up of unit; challenges running the unit; services provided; life as surgeon; patient profile; consumerism; changing status and lifestyles of doctors in India.
Interventional Cardiologist (practice observed)	40s	Corporate hospital	Family background in medicine; interest in cardiology and training experience; reasons for heart disease; treatments available in institution; running of the unit; decision to buy new technologies; medical technologies companies; relationship to the hospital; problems of trust between doctor and patient; developments in health industry.

Appendix 3: Record of Interviews with Patients

The sample of patients was divided almost equally between middle class and lower middle class informants. With middle class informants I discussed particular health problems, concerns about the health system, general questions about health care and health seeking behaviour (interview schedule A) and with women, experiences of child birth (interview schedule B). An illustrative sample of additional topics discussed with these infornmants is provided below. These interviews were conducted at people's houses, using a range of contacts established during fieldwork, across households from different communities. In addition, I used different sites to interview lower class women (*kudumhashree* organisation) – 20 interviews about general health problems and health care seeking behaviour (see discussion guide A); interviews with women across a mixed lower middle to middle class neighbourhood – 20 interviews (on pregnancy, childbirth and after birth care); and one lower middle class Muslim neighbourhood (pregnancy and after care, and other health problems).

A: General interview questions with patients:

How do to treat everyday colds or flus?
Where do you go to treat common health problems?
Which system of medicine do you prefer? Why?
When was the last time you consulted a doctor? Explore
Do you have a family doctor?
Do you think health care has improved in recent years? Why? / Why not?
Have you ever gone for treatment in a super-speciality hospital?
Which doctor did you see?
Have you ever undergone any biomedical tests?
Do you have any long-term health problems?
Are you taking any medicines at the moment?
How do you look after your health?
Why are people in Kerala anxious about their health?
Why do people shop between different doctors and hospitals?

B: Questions on maternity care and deliveries? (40 women)

Where did you give birth?
Why did you choose to deliver in that hospital?
Why did you deliver in the private or public sector?
How many times did you see the doctor before delivery?
Did you take any medicines before birth?

How many scans did you have before delivery?

Where did you go for scanning?

Did you have a normal delivery or a caesarean delivery? Why?

How much did you spent on delivery?

What did you think about the services of the doctor/ institution?

Illustrative sample of issues discussed with different patients.

Respondent details	Age	Religion	Topics discussed
Film producer (M)	30s	Muslim	Health care seeking behaviour; criticism of tests and private hospitals; home remedies; opinions about medical college and government doctors; side effects of modern medicines; attitudes of doctors; donations for higher education; self-care and āyurvedic treatment
Journalist (M)	30s	Hindu	Birth of first child (unplanned caesarean); neo-natal jaundice; circulation and consumption of health magazines; treatment seeking behaviour for child; hospitals charges; hospital admission for flu; mother's treatment for back problem in a private hospital and in āyurveda; nattu vaidyans; doctor-patient relationship; mother in law's consumption of medicines; pharmaceuticals and painkillers
Journalist (F)	20s	Hindu	Fever episode (hospital admission) costs and technologies; consultation with an ENT doctor; modern medicine versus other systems; health anxieties; health journalism and the media; health problems in Kerala; doctor-patient relationship.
Teacher (F)	50s	Muslim	Home remedy treatments; management of blood pressure; husband's heart attack and diabetes; treatment seeking behaviour; doctor-patient relationship.
Teacher (F)	30s	Hindu	Digestion problems; āyurvedic treatment for back pain; child birth (type of hospitals, doctors, technology, charges); child care and relationship to paediatrician; opinion about super-speciality hospitals.
Teacher (F) (government sector)	50s	Muslim	Home remedies; management of blood pressure; husband's heart attack and diabetes; treatment seeking behaviour; neo-natal jaundice; changes to pregnancy, delivery and neo-natal care; doctor patient relationship; changing attitudes of modern doctors.
Housewife	20s	Hindu	Infertility problems and treatment from specialist centre – diet and medicines; interventions; attitudes toward caesarean birth; experience of child birth in private hospital.
Small businessman (M)	30s	Hindu	Chronic health problems; management of diabetes and heart disease; relationship with local doctor; commercialisation of health care.
Community development worker (F)	30s	Hindu	Treatment for minor illnesses; medicine usage and cost; pregnancy, birth, after care and medicines; relationship with local doctor.

Retired teacher (government sector) (F)	60s	Hindu	Treatment for heart condition, following chest pain; check ups with local general physician; lifestyle management of heart condition and cholesterol. Husband's diabetes and blood pressure and treatment.
Book store owner	50s	Muslim	Indigestion and heart problems; English medicine and ayurveda. Attitudes towards modern doctors and technologies.
Retired office worker	60s	Hindu	Personal health habits; relationship with doctor for treatment of heart condition; lifestyle management of BP and cholesterol.
Community development worker (F)	40s	Hindu	Everyday illnesses and treatment responses; Cholesterol management; āyurvedic treatment for varicose veins; super-speciality hospitals Differences between ayurveda and modern medicine for treatment of broken arm
Gulf wife (of white collar worker)	20s	Muslim	Health care seeking behaviour for young children and mother; Knee problem, key hole surgery; āyurvedic treatment for knee and childhood diseases Delivery
Housewife of manual laborourer	20s	Hindu	Family health care seeking behaviour (man, woman, children); delivery in government hospital; government doctors; clinical style of medicine.
Elderly widower	70s	Hindu	Cholesterol problem and temporary treatment from local doctor; cost of medicines; changes in birthing practices.
Gulf housewife	30s	Muslim	Broken leg – xray from local hospital and kalari treatment; paediatric care from super-speciality hospital; pregnancy and birth in private hospital
Gulf wife and teacher	30s	Muslim	Infertility problem and pregnancy care in private hospital; home aftercare; management of mother's diabetes.
Retired office worker	60s	Hindu	Stroke care in medical college; after stroke care in ayurvedic hospital; medical and lifestyle management of BP and diabetes; changes to dietary habits.
Teacher (F)	50s	Hindu	Seeking treatment from a doctor; side effects of modern medicines; paracetamol and use of MBBS doctor.
Muslim housewife (small businessman)	40s	Muslim	Death of husband from a heart attack and secret consultations with doctor; dietary control; treatment seeking behaviour from local doctor; mother's blood pressure; pregnancy care and birth.
Muslim housewife (small businessman)	40s	Muslim	Pregnancy and birth in small local hospital and aftercare; food and daily health habits; mother's stay in super-speciality hospital for diabetes.
Retired government servant (M)	50s	Hindu	Treatment of kidney stones with nattu vaidyan and modern medicine.
Office worker (F)	20s	Hindu	Admission of friend's father to ICU in super-speciality hospital with low BP; English and ayurvedic treatment for knee problem and everyday health problems; improvements to health system from super-speciality medicine.

Nurse (F)	30s	Muslim	Pregnancy care with government doctor and after birthcare; changes to health system.
Office worker (M)	50s	Hindu	Father's practice as vaidyan; dissatisfaction about cousin's birth in medical college.
Lawyer (M)	30s	Christian	Paralysis and admission to private hospital; wife's delivery by caesarean.
Owner of a homeo-pharmacy	50s	Muslim	Technologies and corruption of new private hospitals; story of friend's neck injury; charitable hospitals; breast reduction and cosmetic surgery; admission of mother to super-speciality hospital.
Gulf housewife	50s	Muslim	Husband's heart attack; daughter's stone problem and trips to different hospitals and dilemma of doing surgery in a cheaper hospital; differences between local doctors and hospital doctors; diabetes and BP problem; mother in laws cancer treatment at government medical college.
Retired Engineer	50s	Muslim	Extravagance of private hospitals; criticism of testing for heart problem; trust in doctors and hospitals in co-operative sector; shopping between different areas of Kerala.
Housewife of renal patient	50s	Christian	Dietary changes for husband's condition; story of diagnosis; relationship to doctors in private hospitals; charges in hospital; removal of ovaries and uterus and personal hormonal problems; ayurvedic treatment and modern medicine; symptomatic treatment in modern medicine and overprescribing of medicines; kick backs from pharmaceutical companies; importance of prayer as medicine; blood pressure and tension; snakebite healers; health consciousness of people.
Government Teacher (F)	50s	Hindu	Changes to government sector and new technologies; birth in medical college; gifts for doctors in government sector; home remedies; stomach problems; after birth care; seasonal health problems
Office worker (F)	50s	Hindu	Home remedies; local doctor for everyday illnesses; importance of convenience; homeo medicine for sinusitis; changes to pregnancy care.
Gulf wife	30s	Muslim	Father's kidney stone problem; history of problem; aetiology and choice of institution for surgery.
Office worker (M)	40s	Hindu	English medicine and ayurveda; commercialisation of health care; opinions about different hospitals; treatment for tonsillitis; patient shopping for health care; people blaming the doctor for health problems; caesarean sections.
Social worker (F)	20s	Christian	Jaundice; sickness, stigma and morality; female beauty and cosmetic treatments; doctors as religious figures; indigestion; reasons for seeking health care at onset of illness.
Teacher (F)	50s	Hindu	Pregnancy care; home remedies; birth in private hospital; local health care facilities; herbal remedies for Type II diabetes.
Housewife (F)	40s	Muslim	Health care seeking behaviour; treatment of sprained ankle; visits to hospitals; childcare; pregnancy treatment.
Housewife (F)	20s	Muslim	Birth in private hospital; father's diabetes and treatment; child health problems.

Housewife (F)	40s	Hindu	Birth in private hospital; arthritis problem; ayurvedic and modern medical treatment; treatment of everyday illnesses.
Teacher (F)	40s	Christian	Birth in mission hospital; husband's heart attack; treatment for dizziness.

Events, Conferences and Inaugurations

- Attendance of Continuing Medical Education Programmes for doctors
- Attendance at local Indian Medical Association Events including Annual General Meeting
- Student Islamic Conference on Medical Ethics
- Kerala Health Tourism Conference
- Kerala Travel and Tourism Mart
- Inauguration of new CT scanner and dialysis machine at local hospital
- Inauguration of new diabetes centre
- Speech at the inauguration of new neighbourhood clinic opened by a civil society organisation
- Attendance at public health education programmes run by local community organisations
- Presentation to the local chamber of commerce
- Presentations to local Rotary and Lions Clubs
- Attendance at several health camps organised by local hopsitals

Other data

- Translation of 40 articles from health magazines and cuttings from vernacular newspapers
- Collection of 18 months of English language press cuttings on health
- Translation of 30 hours of television programmes on health – e.g. on Sinuses; Radiation therapy; Cardio-myopathy; Surgical removal of Piles; Female Obesity
- Collection of case notes of all medical negligence cases raised against local hospitals and doctors at the local consumer court between 2000 to 2006. This information was collected by my research assistant, in response to the claims of doctors that there were so many litigation cases. We were able to look at each case file, which was brought one at a time by the clerk of the court. She copied down the details of all 57 cases which had been lodged over the last 6 years. This provided details of the institution/doctor against whom the case had been raised; the alleged negligence; and the current status/ outcome of the case. The year 2000 was chosen as an arbitrary start date, to look at the number of cases over the last six years.